

Ash Disposal / Angelica Street Ash Pile Analysis

From: Jeff Theerman
To: Bernie Rains, Bruce Litzsinger, Ed Cope, Randy ...
Date: 7/16/01 10:32AM
Subject: Ash Disposal from Bissell Point

Here is a history of ash disposal from the Bissell Point site. This was based on what I was able to glean from the files at the plant. It is my belief that while we apparently applied for and recieved a permit in 1983, we never used it. the ash in 1984 was moved by MSD employees to the Angelica site and then subsequently moved to the Prospect Hill Landfill.

The second attachment is a history of both Bissell and Lemay. Also, Paul Brackens used to have samples of ash stored in the Bissell Point Administration basement of all ash produced at Bissell Point during it's history. If we need to, we should be able to perform an analysis of the ash from the time period and determine if it is hazardous.

Jeff Theerman
Assistant Director of Operations
Metropolitan St. Louis Sewer District
314/768-6245

CC: Roger Wieting

Metropolitan St. Louis Sewer District Incinerator Ash Disposal History

Fill Period	Basin	Disposal Site	Approx. Volume
Summer '99	Basin 1	Prospect Hill	70,000
Summer '99	Lemay	Prospect Hill	111,000
Spring '98	Basin 2	Prospect Hill	70,000
Spring '97	Basin 1	Prospect Hill	82,450
Spring '96	Basin 2	Prospect Hill	90,650
Fall '95	Angelica	Prospect Hill	89,250
Spring '95	Lemay	Prospect Hill	108,350
Spring '94	Basin 1	Prospect Hill	78,000
Fall '90	Basin 2	Prospect Hill	76,000
Spring '88	Basin 1	Prospect Hill	75,000
Summer '86	Basin 2	Prospect Hill	75,000
Winter '84	Basin 1	Angelica	71,000
Winter '82	Basin 2	Rockhill Quarry	70,000
Winter '80	Basin 1	Angelica	61,000
Summer '76	Basin 2	Stein Property	22,000
Spring '75	Basin 2	Stein Property	61,000

Note: All ash labeled Basin 1 or 2 and the Angelica stockpile originated at Bissell Point

Memo To: Bernie Rains
From: Jeff Theerman
Subject: History of Ash Removal From Bissell Point
Date: July 13, 1994

I have reviewed the files and have spoken to plant staff that was here at the original startup. The following is a general synopsis of the various ash removal operations in Bissell Points history.

Fill Period	Basin	Disposal Site	Approx. Volume
Spring '94	Basin 1	Prospect Hill	78,000
Fall '90	Basin 2	Prospect Hill	76,000
Spring '88	Basin 1	Prospect Hill	75,000
Summer '86	Basin 2	Prospect Hill	75,000
Winter '84	Basin 1	Angelica	71,000
Winter '82	Basin 2	Rockhill Quarry	70,000
Winter '80	Basin 1	Angelica	61,000
Summer '76	Basin 2	Stein Property	22,000
Spring '75	Basin 2	Stein Property	61,000

Based on the best information I have, there is a total of 132,000 yds³ of ash on the Angelica Street site. This ash was placed on the site on two separate occasions as shown in the table.

cc: Roger Wieting

fac\ashhist

BKR

ENVIRONMENTAL EVALUATION OF INCINERATOR ASH STORED AT BISSELL POINT WWTP

BACKGROUND

- Ash moved to Angelica Street storage site twice (winter of 1980 and winter of 1984)
- Stored ash generated between 1977 and 1980
- Total ash volume = 132,000 cubic yards
- Area covered = 5 acres @ 16' depth
- Concern for quality of ash moved winter of 1980:

* - ash generated prior to District's approved pretreatment program
(August 1982; Ordinance #4786)


- ash could contain low level radioactivity from commercial *heavy metal concerns, is there anything hazardous, ~~and~~*
columbium - tantalum processing *and other mixed waste concerns*

REGULATORY ACTIVITY

- Hazardous waste criteria established for solid wastes (40 CFR Subpart C; effective September 1990) (TCLP)
- Documented cases where radioactive materials have been concentrated in sludge and incinerator ash (Cleveland, Ohio and Erwin, Tennessee)
- District Ordinance No. 8472 limited radioactive materials discharged from all users in a treatment area to one (1) curie per year (Article V, Section One, Paragraph A, Item 13; effective August, 1991)
- New NRC regulations no longer allow release of radioactive particulate matter to sewers (10 CFR 20.2003; effective January 1994)

DISTRICT ACTIVITY TO-DATE

- Preliminary heavy metal and radiological sampling of ash moved to Angelica site winter of 1984 indicated no compliance problem
- Request for Proposal to evaluate total ash pile sent to four firms in November, 1990
 - O'Brien & Gere
 - Teledyne
 - TMA/Eberline
 - Engineering-Science
- Review committee selected TMA/Eberline for project
- Subsequent cost negotiations with TMA/Eberline not productive (cost exceeded MSD budget allotment)
- During cost negotiations with second committee selection Engineering-Science, project put on hold due to pending law suits and budget constraints (April, 1991)
- Proposed Ordinance No. 83-95 resurrects project for completion

MEMO TO: Frank Kriz
FROM: John Koeper 
DATE: July 18, 1990
SUBJECT: Angelica Ash Pile

*file
Angelica*

The ash pile on Angelica was tested in 1986 for radium-226 and found to be well below the level of concern for this type of radioactive material. Since the 1986 regulations have not changed, as of this writing, the ash on its existing site poses no threat. Unless we have an urgent need to move the ash pile, I along with Roger Wieting recommend that further testing and ultimate disposal of the ash pile be deferred to a future date when funds are available for lower priority needs.

mvf

c: Chuck Etwert
Jim Byrne
Bernie Rains
Roger Wieting

INVOICE

3547

ICC 115821
ILL. CC 9349MC-CR*Beelman Truck Co.*PHONE
618-768-4411P. O. BOX 305
ST. LIBORY, ILLINOIS 62282METROPOLITAN ST. LOUIS SEWER DISTRICT
ATTN: KEN AMBARO
10 EAST GRAND AVENUE
ST. LOUIS, MO 63147-2913

DATE	INVOICE NUMBER	PAGE NUMBER
12/22/95	3547	1
CUSTOMER NUMBER	CODE	
19413		
OUR ORDER NUMBER	YOUR ORDER NUMBER	

RE: ASH HAULED FROM BISSEL POINT TREATMENT PLANT TO PROSPECT HILL LANDFILL.
PROGRESS BILLING FOR DECEMBER 12-14, 1995.CALCULATIONS

Approx. 5,666 cu. yds. ea.
 3.5 sections
 19,831 cu. yds.
 x \$3.29

 \$65,243.99

TOTAL DUE BEELMAN TRUCK CO.....\$65,243.99

SUBTRACT 20% RETAINER (\$13,048.80)

TOTAL PAYMENT DUE - \$52,195.19OK for payment
(P) 1-2-96

Beelman Truck Co.

PHONE
618-768-4411

P. O. BOX 305
ST. LIBORY, ILLINOIS 62282



METROPOLITAN ST. LOUIS SEWER DISTRICT
ATTN: KEN JAMBARO
10 EAST RAND AVENUE
ST. LOUIS, MO 63147-2913

DATE	INVOICE NUMBER	PAGE NUMBER
12/14/95	3540	1
CUSTOMER NUMBER	CODE	
19413		
OUR ORDER NUMBER	YOUR ORDER NUMBER	

RE: ASH HAULED FROM BISSEL POINT TREATMENT PLANT TO PROSPECT HILL LANDFILL.
PROGRESS BILLING FOR DECEMBER 1, 1995 to DECEMBER 8, 1995.

CALCULATIONS

762 loads
x40.9 cu. yds. per ld.

31,165.8 cu. yds.
x \$ 3.29

\$102,535.48

TOTAL DUE BEELMAN TRUCK CO.....\$102,535.48

SUBTRACT 20% RETAINER - \$20,507.10

∴ TOTAL PAYMENT DUE = \$82,028.38

OK for payment
(K&J) 12-18-95

TERMS — NET 15 DAYS

ICC 115821
ILL. CC 9349MC-CR

INVOICE

Beelman Truck Co.

3522

PHONE
618-768-4411

P. O. BOX 305
ST. LIBORY, ILLINOIS 62282



METROPOLITAN ST. LOUIS SEWER DISTRICT
ATTN: KEN GAMBARO
10 EAST GRAND AVENUE
ST. LOUIS, MO 63147-2913

DATE	INVOICE NUMBER	PAGE NUMBER
11/30/95	3522	1
CUSTOMER NUMBER	CODE	
19413		
OUR ORDER NUMBER	YOUR ORDER NUMBER	

RE: ASH HAULED FROM BISSEL POINT TREATMENT PLANT TO PROSPECT HILL LANDFILL.
PROGRESS BILLING OF FOUR (4) SECTIONS PER INSTRUCTIONS.

CALCULATIONS

Approx. 5,666 cu. yds. ea.
4 sections completed

22,664 cu. yds.
x \$3.29 per cu. yd.

\$74,564.56
\$ 500.00 mobilization

\$75,064.56 TOTAL DUE BEELMAN TRUCK CO. ✓

(- 20% RETAINAGE
ON COMPLETED WORK
14,912.91
\$ ~~15,012.91~~)

OK for payment

(Key)

12-4-95

Reg. # 94-322B
Bid # 96-20

TOTAL PAYMENT DUE = \$60,151.65

TERMS - NET 15 DAYS

MSD 000009

ICC 115821
ILL. CC 9349MC-CR

INVOICE

3608

PHONE
618-768-4411

Beelman Truck Co.

P. O. BOX 305
ST. LIBORY, ILLINOIS 62282



METROPOLITAN ST. LOUIS SEWER DISTRICT
ATTN: JEFF THEERMAN
10 EAST GRAND AVENUE
ST. LOUIS, MO 63147-2913

DATE	INVOICE NUMBER	PAGE NUMBER
02/29/96	3608	1
CUSTOMER NUMBER	CODE	
19413		
OUR ORDER NUMBER	YOUR ORDER NUMBER	

Angelica Street Pile

<u>DATE</u>	<u>DESCRIPTION OF CHARGES</u>	<u>TOTAL</u>
02/19/96-02/29/96	657 loads @ 40 yds. ea. = 26,280 cy. yds.	
	@ \$2.89 per cy. yd.	\$75,949.20

TOTAL DUE BEELMAN TRUCK CO. \$75,949.20

SUBTRACT 20% RETAINER (\$15,189.84)

Total Payment Due \$60,759.36

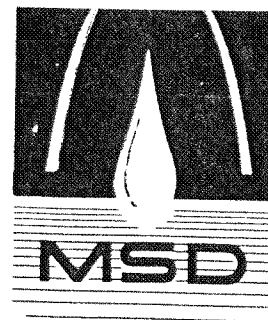
OK for payment.

JP 3/7/96

TERMS — NET 15 DAYS

MSD 000010

METROPOLITAN ST. LOUIS SEWER DISTRICT



July 17, 1986

Mr. Rod Melgard
Eberline Instrument Corporation
7021 Pan American Highway, N.E.
Albuquerque, New Mexico 87109

Dear Mr. Melgard:

As discussed with you on the telephone yesterday, we are requesting your firm to analyze six incinerator ash samples for Radium 226 by chemistry technique. These samples are being sent to you by United Parcel Service. The samples are designated as "Angelica Street Ash, Bissell Point STP" Nos. 1 through 6. We understand the cost of the chemistry analysis for Radium 226 is \$113.00 per sample. In billing us, refer to Purchase Order No. P9754W. Please forward your invoice and test results to Mr. Al Callier, Bissell Point STP, 10 E. Grand Avenue, St. Louis, Missouri 63147. I would also appreciate receiving a copy of the test results.

Thank you for your assistance with this request.

Sincerely,

Bernard A. Rains, P.E., Director
Environmental Compliance

BAR:kat

cc: Roger Wieting
Al Callier

Sample in {30}

CUSTOMER

ADDRESS

CITY

CUST. P.O. NO.

CUST. S.O. NO.

TOTAL NO. OF SAMPLES

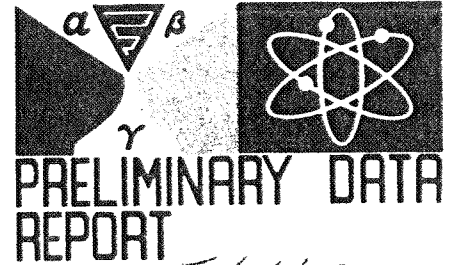
DATE RECEIVED

DATE DUE

ITEM

NO. OF SAMPLES

TYPE OF ANALYSIS



SAMPLE RECEIPT ACKNOWLEDGEMENT

LAB NO	CUSTOMER IDENTIFICATION	CUSTOMER SAMPLE NO	DATE COLLECTED	TYPE OF ANALYSIS	TOTAL VOL	WT	ALIQOT	*	*
7374	#1 BPSTP ASH PILE ANGELICA ST. - FERRY ST.		7-9-86	Ra ²²⁶					
75	#2 BPSTP ASH PILE ANGELICA - FERRY STS.								
76	#3 BPSTP ASH PILE ANGELICA - FERRY STS.								
77	#4 BPSTP ASH PILE ANGELICA - FERRY STS.								
78	#5 BPSTP ASH PILE ANGELICA - FERRY STS.								
79	#6 BPSTP ASH PILE ANGELICA - FERRY STS.								

CC: Bernard A. Rains

* INSERT UNITS



Thermo Electron

Eberline Analytical

 021 PAN AMERICAN HWY. NE ALBUQUERQUE, NEW MEXICO 87109
 PHONE (505) 345-3461

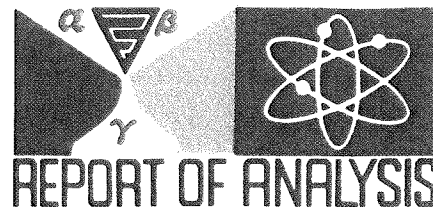
 BY B. Van Lieberman 8/25/86

DATE

PAGE 1 OF 1

MSD 000012

CUSTOMER Metropolitan St. Louis Sewer Dist.
 ATTENTION Bissell Point STP
 ADDRESS Al Callier
 CITY 10 E. Grand Ave.
 W.O. NO. St. Louis, Missouri 63147
 E-6162



Radium in incinerator Ash
 TYPE OF ANALYSIS

P9754W
 CUSTOMER ORDER NUMBER

SAMPLES RECEIVED 7/24/86

Customer Identification	Date Collected	Type of Analysis	Total Wt. (g) dry	pCi/g (dry)
#1BPSTP Ash Pile Angelica St. Ferry St.	7/9/86	Ra-226	647	1.2±0.2
#2BPSTP Ash Pile Angelica- Ferry St.	"	"	599	1.2±0.2
#3BPSTP Ash Pile Angelica- Ferry St.	"	"	648	0.6±0.2
#4BPSTP Ash Pile Angelica- Ferry St.	"	"	660	2.2±0.2
#5BPSTP Ash Pile Angelica- Ferry St.	"	"	659	0.5±0.2
#6BPSTP Ash Pile Angelica- Ferry St.	"	"	687	1.1±0.2

cc: Bernard A. Rains

☐ REPORTED VIA TELEPHONE

PAGE 1 OF 1 PAGE

TMA Eberline
Thermo Analytical Inc.

7021 PAN AMERICAN FREEWAY, N.E.
 ALBUQUERQUE, NEW MEXICO 87109
 PHONE (505) 345-3461

APPROVED BY

Rod Melgard, Mgr.

9/15/86

DATE

MSD 000013

5 May 1995

Mr. Bernard A. Rains
Metropolitan St. Louis Sewer District
10 East Grand Avenue
St. Louis, MO 63147-2913

Re: Transmittal of Final Project Report
Angelica Street Ash Pile Environmental Evaluation
726589-05000

Dear Mr. Rains:

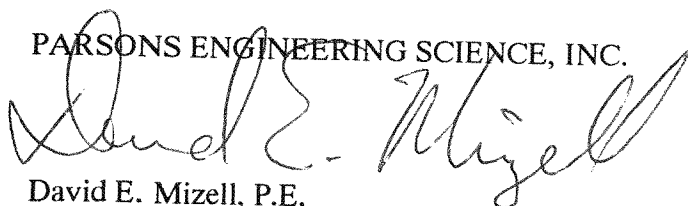
Parsons Engineering Science Inc. is pleased to submit five copies of the Final Report on the Angelica Street Ash Pile Environmental Evaluation. This report summarizes a field investigation performed in November 1994 which involved 33 borings across the pile. Ash was brought to the surface and inspected across the entire length of each boring. All ash was screened in the field for radioactivity, and samples were collected for analysis in the laboratory. Tests were run for metals and radioactivity. A small number of samples were tested for specific organic compounds. No significant concentrations of any constituents were found in the samples.

The results of this study show that the ash can be moved to the District's Prospect Hill Landfill without impacting the environment. This transfer can be accomplished using routine construction practices.

We appreciate the opportunity to be of service to the District. If you have any questions, please call me or Lee Gorday.

Yours truly,

PARSONS ENGINEERING SCIENCE, INC.



David E. Mizell, P.E.
Project Manager



Environmental Evaluation Angelica Street Ash Pile

Prepared For:
**Metropolitan St. Louis Sewer District
10 East Grand Avenue
St. Louis, Missouri 63147**

May 1995

Submitted by:
**PARSONS ENGINEERING SCIENCE, INC.
Suite 330
400 Woods Mill Road South
St. Louis, Missouri 63017-3427**

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LIST OF ACRONYMS

ASTM	American Society of Testing Materials
CFR	Code of Federal Regulations
EPA	Environmental Protection Agency
FUSRAP	Formerly Used Site Remedial Action Program
ICAP	Inductively Coupled Argon Plasma
mg/kg	milligrams per kilogram
MSD	Metropolitan St. Louis Sewer District
MDNR	Missouri Department of Natural Resources
NRC	Nuclear Regulatory Commission
pCi/g	picoCuries per gram
pCi/l	picoCuries per liter
RCRA	Resource Conservation and Recovery Act
SVOCs	Semivolatile Organic Compounds
TCLP	Toxicity Characteristic Leaching Protocol
TLD	Thermoluminescent Detector
U²³⁸	Uranium 238 isotope
VOCs	Volatile Organic Compounds

1. INTRODUCTION

1.1 PROJECT HISTORY

The Metropolitan St. Louis Sewer District (MSD) wishes to dispose of a pile of incinerator ash that is currently stored at its Bissell Point Treatment Plant on North Grand Avenue in the City of St. Louis. This pile, informally known as the Angelica Street Ash pile, was created in the early 1980s when MSD cleaned out ash ponds on two occasions. The Bissell Point Treatment Plant began operations in the early 1970s. One or more facilities within the Bissell Point service area may have contributed radionuclides and waste water containing elevated metals concentrations to the wastewater processed by the plant. Improvements in pretreatment of wastewater since the Bissell Point Plant opened have resulted in a decrease in metals entering the treatment plant.

Incinerator ash contains residues from the incineration of sewage sludge. The sewage treated at the Bissell Point Plant consists of both domestic and industrial wastewaters. Metals and other non-volatile constituents pass through the treatment and incineration processes and are concentrated in the ash. The ash in the Angelica pile was produced during the early days of the Bissell Point Treatment Plant operation, and has not been thoroughly characterized for ultimate disposal. The MSD began disposing of ash into its Prospect Hill Landfill after creation of this pile, and has continued this practice to the present day.

Ash from the incinerator is pumped as a slurry into the ash ponds. As the slurry spreads through the pond, the ash settles out of the suspension. Clear water from the ponds is removed for additional treatment. Short term variations in the metals or radioisotope concentrations of the incinerator ash are moderated to some degree by the ash handling. A particular quantity of ash is distributed in a thin layer throughout the ash pond as a part of the settling process. When the pond is full of ash, free standing water is removed, and sumps are dug to allow water to drain from the ash. The ash is loaded into dump trucks for transportation to the disposal facility. Any given load of ash to be transported is likely to be a mixture of ash from all levels within the pond, but represents only a small horizontal area.

The constituents in the ash may have changed between the time that the first ash was placed at the Angelica Street site and the second ash disposal. Bulk variation in metals or radioisotope concentrations between the two periods of ash disposal may result in variations in concentrations vertically within the pile (if the ash from the second period of disposal was placed on top of the ash from the first period) or within areas of the pile (if one area is related to the first disposal period and another area is associated with the second disposal period). The pile ranges from approximately 6 to 10 feet thick. The ash was deposited in the pile from dump trucks in two or more layers.

1.2 SITE DESCRIPTION

The ash pile is located just south of MSD's Bissell Point Treatment Plant in the northeastern portion of the city of St. Louis (see Figure 1.1). The site is located on the north side of Angelica Street. The site is bounded to the west and northwest by the tracks of the Terminal Railroad Association's southern approach to Merchants Bridge. The site is bounded to the east by a concrete batch plant (apparently inactive) that is located on MSD property, and further to the east by a warehouse owned by Lange-Steadman. Vacant land lies between the north side of the ash pile and the trestle that constitutes the western end of Merchants Bridge.

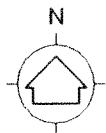
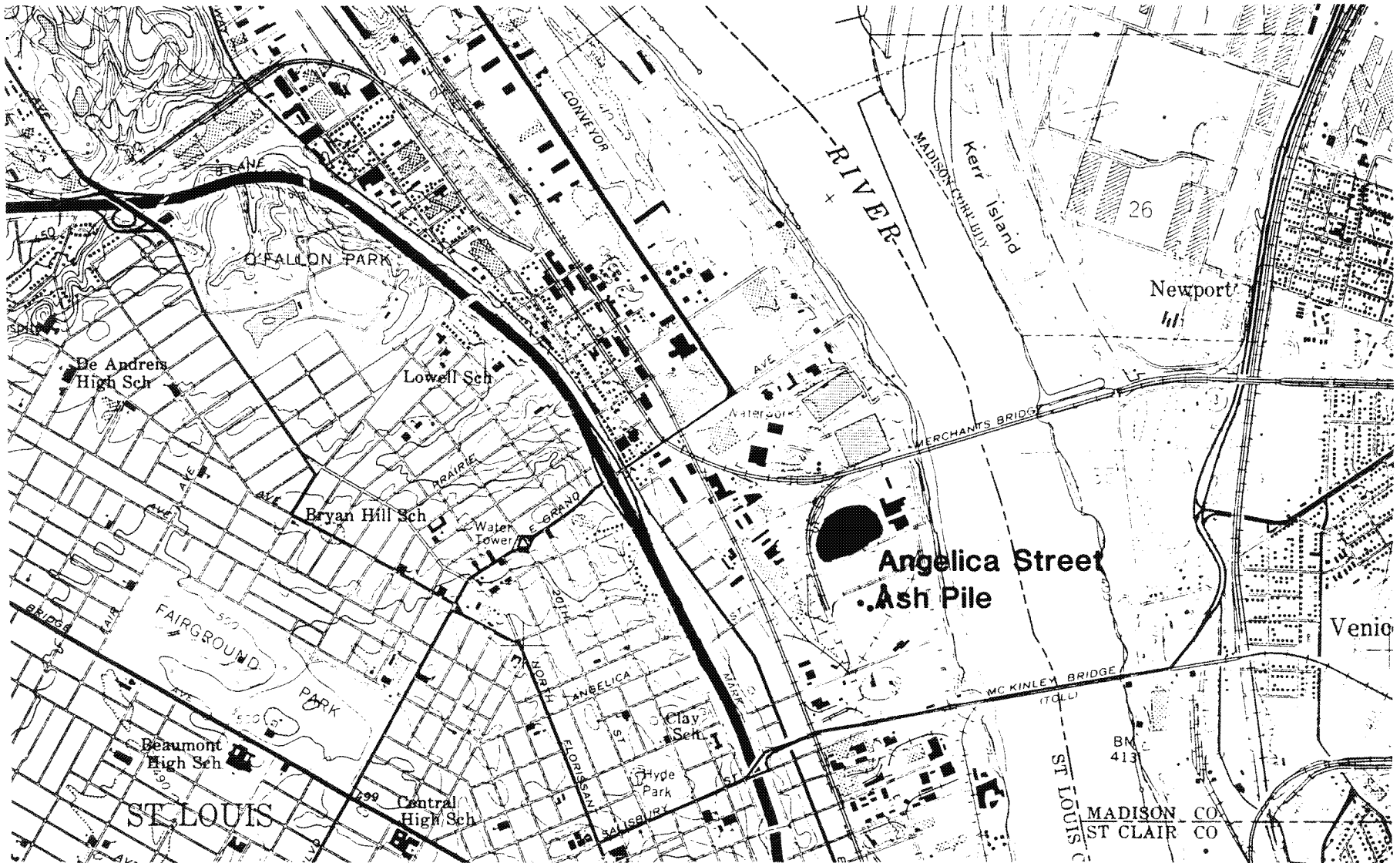
The ash pile is approximately 6 to 10 feet above the local grade. Prior to this project the upper surface of the ash pile was very uneven. This was a result of the numerous mounds left from the unloading of the dump trucks. The pile was overgrown with weeds and scattered small trees. A ramp bisects the site north to south. The upper surface of the pile is approximately 5 to 7 feet above the highest point of the ramp.

The ash pile is surrounded by a 7 foot chain-link fence. Two gates allow access to the site. The gate on the northern side of the site is missing. The layout of the site is shown on Figure 1.2. The ash pile can be divided into three areas. The western portion of the pile is the area west of the ramp that bisects the site. The eastern portion of the pile extends from the pile's eastern margin to a slope that bisects the part of the pile east of the ramp. The central portion of the site lies east of the ramp but west of the linear slope. The surface of the pile in the eastern portion lies at an elevation that is generally 5 to 7 feet lower than the central and western portions of the pile.

The area around the ash pile is used primarily for industrial purposes. There are no residences within one-half mile of the site. The number of persons within close proximity of the site is very low owing to the site access restrictions and the low density land uses nearby.

1.3 PROJECT OBJECTIVES

MSD wishes to dispose of the ash in the Angelica Street pile in a manner which complies with all environmental laws and regulations. In order to select the appropriate disposal alternative, MSD wishes to understand what constituents are present in the pile, and at what concentrations. These data are needed to evaluate the disposal alternatives that are available to MSD. MSD also wishes to identify the regulatory requirements associated with the ash. The ultimate goal of this project is to develop a recommendation for disposal of the ash and to identify any risks to human health and the environment associated with this disposal option.



2000 1000 0 2000
Scale in Feet
One inch equals approximately 100 feet

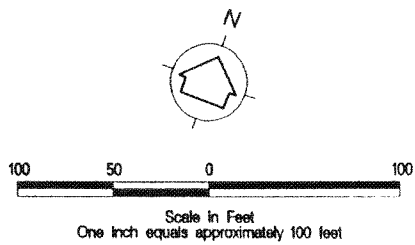
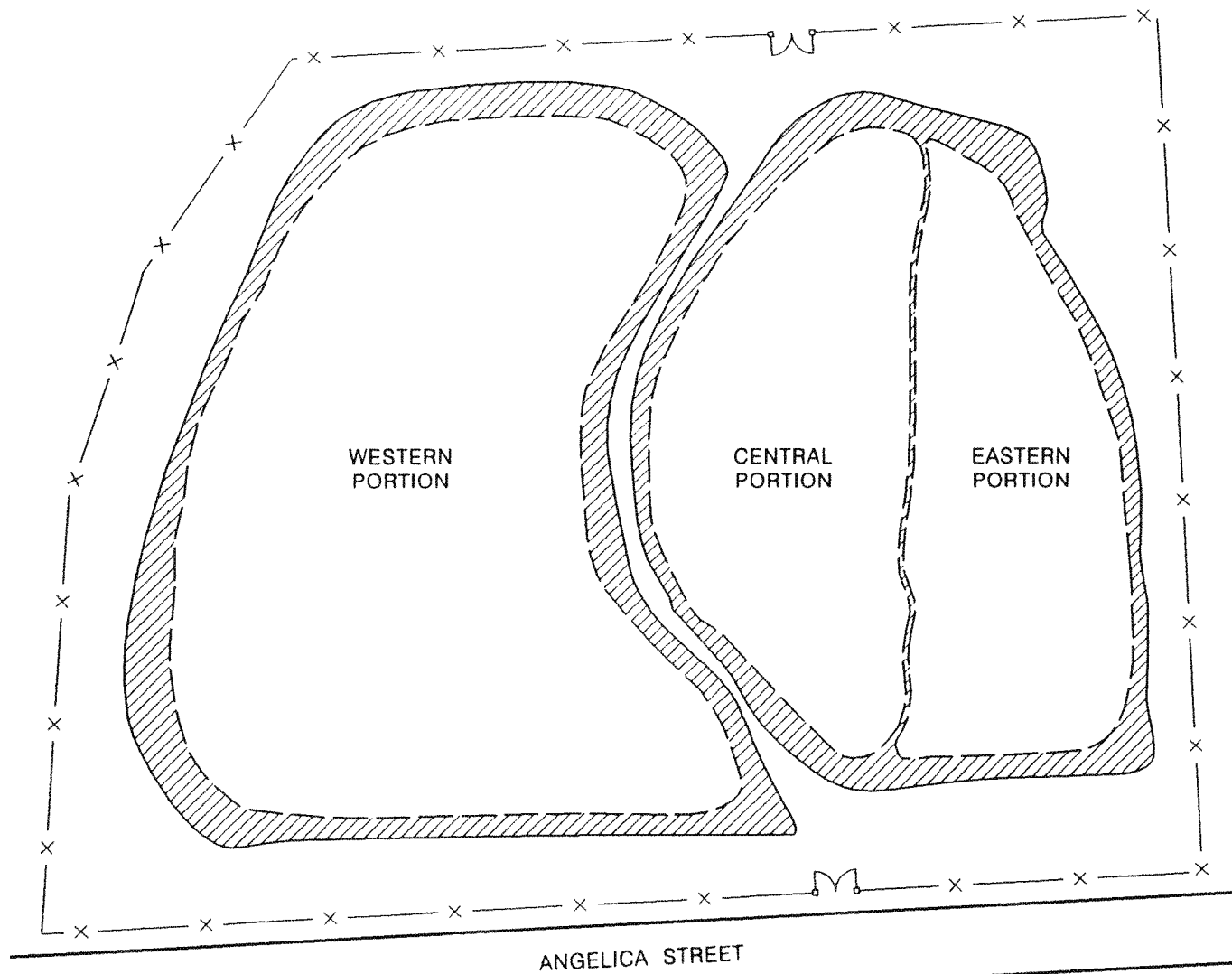
Map taken from
Granite City, Ill-Mo
1993 USGS quadrangle

**METROPOLITAN
ST LOUIS SEWER DISTRICT**

**FIGURE 1.1:
Site Location of
Angelica Street Ash Pile**

PARSONS ENGINEERING SCIENCE
St. Louis, Missouri





LEGEND

- Upper Limit of Slope at perimeter of pile
- Foot Print of Ash Pile
- ▨ Slope at perimeter of pile
- x— Fence

**METROPOLITAN
ST LOUIS SEWER DISTRICT**

**FIGURE 1.2:
Site Layout**

PARSONS ENGINEERING SCIENCE
St. Louis, Missouri



2. SAMPLING PROCEDURES

2.1 SITE PREPARATION

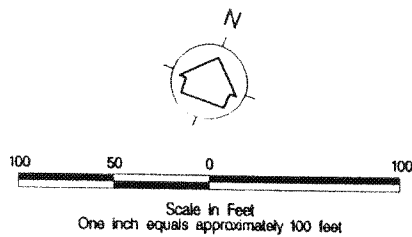
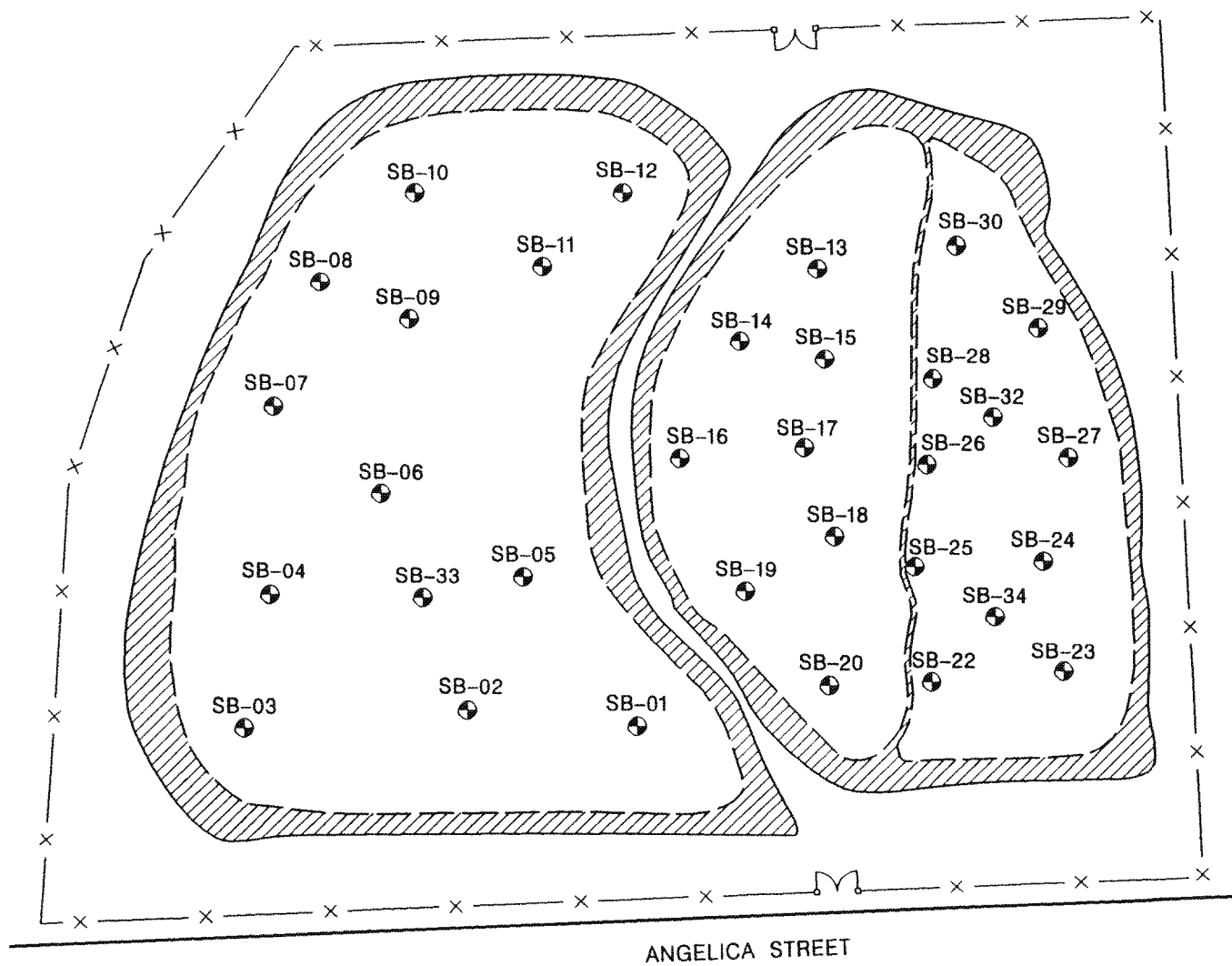
In order to efficiently access the top of the ash pile with the drilling rig, the upper surface of the pile was smoothed with a bulldozer. This clearing and leveling greatly enhanced the ability of the drill rig to move across the pile and allowed for boreholes to be more evenly distributed. Once the pile was cleared and leveled, vehicular access to the site was restricted by placing a chain across the gap in the chain link fence left by the missing gate.

A surveyor was subcontracted to define the footprint of the pile and to establish a 20-meter (65 feet) grid across the site. The surveyor also established a local reference point with an arbitrary elevation of 100.0 feet. This reference point was used to establish all subsequent site elevations. The site grid and outline of the footprint of the pile were used to identify borehole locations. The borehole locations were selected to provide for uniform borehole density across the site. A sampling plan was developed that called for three ash samples to be collected from each of the boreholes advanced in the portion of the pile west of the ramp and the boreholes advanced in the higher plateau area east of the ramp. Two samples were to be collected from each borehole in the lower plateau area (the easternmost portion of the site) because the thickness of the ash pile was expected to be thinner in this area.

2.2 BORING PROCEDURES

A total of 33 boreholes were advanced using hollow stem augers. The locations of the boreholes are shown on Figure 2.1. Continuous soil sampling was conducted ahead of the augers using a split-spoon sampler. The split-spoon sampler was driven using a drop hammer or pushed using the rig hydraulics. Sample recovery in the ash was generally better when the sampler was pushed rather than hammered. The samplers and flight augers were decontaminated between each use. The decontamination procedure is described in Section 2.4.

Boreholes were generally advanced to 2 to 4 feet below the bottom of the ash pile. Several boreholes in the eastern portion of the site encountered refusal at the bottom of the ash pile. Each split-spoon sample was screened for radioactivity using a Victoreen model 190 radiation detector equipped with a pancake probe capable of detecting alpha, beta and gamma radiation. A written description of the contents of each split spoon was recorded on the boring log form. Boring logs are presented in Appendix A. All field activities were supervised by a Parsons Engineering Science geologist. At the completion of each borehole, the borehole was backfilled with cuttings. The holes were not grouted because of the intention to remove the pile in the near future, and the fact that the



LEGEND

- Upper Limit of Slope at perimeter of pile
- Foot Print of Ash Pile
- ▨ Slope at perimeter of pile
- x— Fence
- SB-03 Boring Location and Identification

**METROPOLITAN
ST LOUIS SEWER DISTRICT**

**FIGURE 2.1:
Soil Boring Locations of
Angelica Street Ash Pile**

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Prospect Hill landfill is permitted to receive only ash. Soil boring SB-21 was advanced in the area of the ramp to evaluate whether ash was present in the area. Because ash was not present, analytical samples were not collected from the borehole.

In response to concerns from the Missouri Department of Natural Resources (MDNR) Hazardous Waste Enforcement Unit, three subsurface soil samples were collected for analysis of volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs). These samples were collected from a depth of 4 to 5 feet using a hand auger sampler. The hand auger was decontaminated prior to each boring. The borings were advanced adjacent to soil boreholes SB-09, SB-18 and SB-28.

2.3 BASELINE SAMPLES

Three samples of the ash currently in the ash ponds at the Bissell Point Plant were collected for comparison with the ash from the Angelica Street pile. These samples were analyzed for gross alpha and gross beta. This information was needed in order to evaluate the degree, if any, to which radioactivity is elevated in the ash pile. Unlike metals concentrations, there are currently no standards for low level radioactivity in soil or ash promulgated by the Environmental Protection Agency (EPA) or the Nuclear Regulatory Commission (NRC).

The samples were collected from three sumps in the ash in the north ash pond at the Bissell Point treatment plant. These sumps were dug to allow water in the ash to be removed, so that the ash would dry out enough to handle. Samples were collected from several depths within the edge of the sump using a stainless steel hand auger. The material from each depth sampled was placed in a stainless steel bowl and composited. One composited sample was submitted for analysis from each of the three sumps that were sampled. The hand auger and stainless steel bowl were decontaminated before beginning sampling at each sump.

2.4 DECONTAMINATION

All sampling equipment was decontaminated prior to each use. The decontamination protocol for the equipment contacting the sample consisted of the following steps. The sampling equipment was scrubbed using stiff brushes and a solution of potable water and laboratory grade, phosphate free detergent. The equipment was rinsed with potable water. The equipment was then rinsed with distilled water. The flight augers were steam cleaned using a solution of potable water and laboratory grade, phosphate free detergent. After washing, the augers were rinsed with potable water. Decontamination fluids were allowed to infiltrate into the ash pile.

2.5 SAMPLE COLLECTION AND HANDLING

Initial sampling plans called for three samples to be collected from each borehole in the western portion of the site and from each borehole in the higher plateau of the eastern portion of the site. Two samples were to be collected from each borehole in the lower portion of the eastern part of the site. Radiation scan results were to be used to aid in selection of samples, so that the samples would represent the material with both the

greatest and the least radioactivity. An additional criteria was to have the samples well distributed throughout the depth of the pile.

The ash thickness was generally less than expected, especially in the western portion of the site, where the thickness was expected to be greatest. Because the ash pile was not as thick as expected, only two samples were submitted for analysis from a number of the boreholes located in the western portion of the site. There appeared to be little variation in radiation levels detected in the scan of the split-spoon samples. As a result, analytical sample selection was based upon obtaining a favorable vertical distribution of samples and adequate sample recovery.

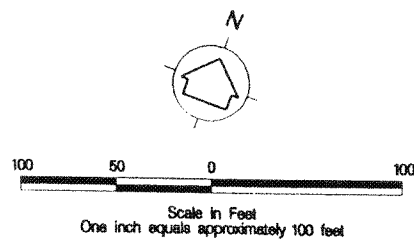
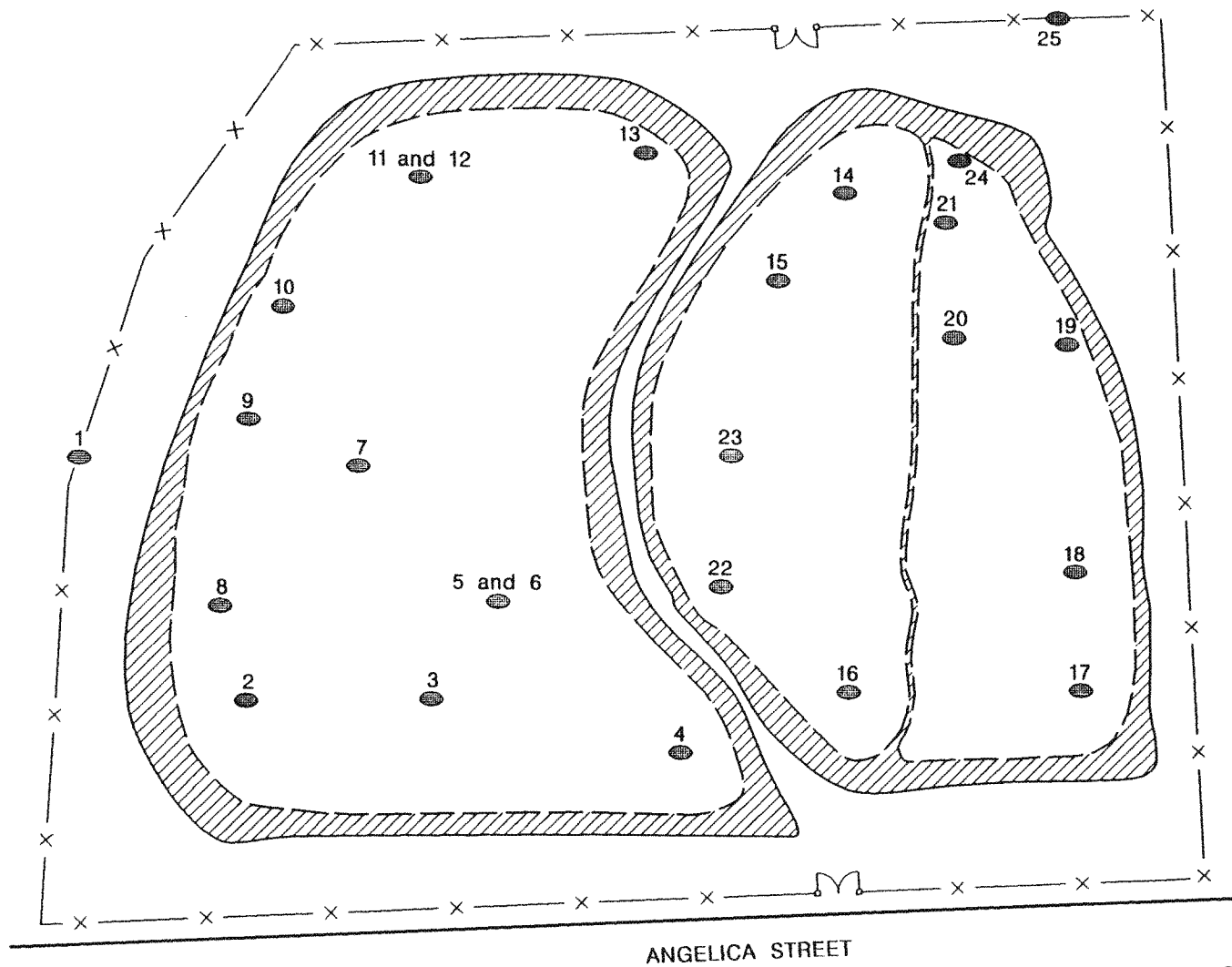
Ash samples selected for laboratory analysis were placed in glass sample jars provided by the laboratory. The sampler wore fresh nitrile disposable gloves when handling the sample. The sample was transferred directly from the split-spoon sampler to the sample jar. The sample jar was completely full unless prevented by poor sample recovery. Each sample jar was labeled with the sample identification, date, time of collection, analyses to be performed and name of sampler. Sample identification consisted of the borehole number, followed by the sample number for that borehole (SS1, SS2, etc.), followed by the upper depth of the sample range and the lower depth of the sample range. For example sample SB02-SS1-2-4 would correspond to the first sample from borehole SB02 and would have been collected from the depth range of 2 to 4 feet. The sample number has been dropped from the sample identification presented in the tables of results in Section 3. The sample jar was immediately placed on ice. Samples were handled under chain-of-custody procedures throughout sampling and analysis. Samples from which a duplicate sample was submitted were homogenized in a stainless steel bowl before the sample jars were filled. Split-spoon samples not submitted for laboratory analysis were placed in zipper topped plastic bags and stored in case the material was needed for subsequent analysis.

2.6 RADON MEASUREMENTS

Radon emanation from the ash was evaluated by placing radon detectors throughout the ash pile. The radon detectors were placed under plastic bowls on the surface of the ash. Background radon measurements were made at two locations along the perimeter of the site. The locations of the radon measurements are shown on Figure 2.2.

2.7 ANALYTICAL PROCEDURES

A variety of analytical procedures were used for this investigation. Radioactivity in the ash was evaluated using gross alpha and gross beta analyses as general indicators. Many of the ash samples were also analyzed for total uranium. Isotope specific analyses were considered, including Radium 226, but these analyses were not performed due to the generally low radioactivity of the samples. Gross alpha and gross beta analyses were performed using a modification of EPA method 900.0 to allow for the analysis of solid samples. This technique uses a gas proportional counter to determine the total alpha and beta emissions from a sample of known mass. The analyses were performed according to



LEGEND

- Upper Limit of Slope at perimeter of pile
- Foot Print of Ash Pile
- ▨ Slope at perimeter of pile
- x— Fence
- Radon Measurement Locations and Identification

**METROPOLITAN
ST LOUIS SEWER DISTRICT**

**FIGURE 2.2:
Radon Measurement
Locations**

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laboratory standard operating procedures for this method, which include checks of quality control. Total uranium analyses were performed using method ASTM 5174-91. The uranium content was determined by measuring phosphorescent emissions resulting from the sample being illuminated using a laser. The laboratory reported the total uranium results in milligrams per kilogram (mg/kg). The concentrations can be converted into activities in picoCuries per gram (pCi/g) by multiplying the concentration by 6.89×10^{-4} (Quanterra, communication dated 27 January 1995). This conversion assumes that the uranium is from a natural source and is not enhanced in any specific isotope. Results of the gross alpha, gross beta and total uranium analyses are presented in Appendix B.

The radon detectors used for this investigation contain an isolated wire grid. Radioactive emissions strike the grid, creating an electrical charge which is then measured in the laboratory.

Analyses for total metals were performed using SW-846 6010 for most metals. Method 6010 determines the concentration of various metals by atomic emission spectroscopy using an inductively coupled argon plasma (ICAP). Selenium was analyzed using method SW-846 7740. Thallium was analyzed using SW-846 7841. Methods 7740 and 7841 are graphite furnace atomic absorption techniques. Mercury was analyzed using method SW-846 7470, which is a cold vapor method. Standard quality control procedures were followed as outlined in the applicable methods. Laboratory results for the total metals analyses are presented in Appendix C. Ten of the ash samples that had been tested for total metals were analyzed using toxic chemical leaching procedures (TCLP). The ash was placed in a heated acidic solution and agitated. The liquid was analyzed for metals leached from the ash using the methods outlined above. As with the total metals analyses, standard quality control procedures were utilized. The results of the TCLP analyses are included as Appendix D.

Volatile organic chemical (VOC) analyses were conducted using method SW-846 8240. Semi-volatile organic chemical (SVOC) analyses were conducted using method SW-846 8270. Both of these methods utilize a gas chromatograph for separation of target compounds with a mass spectroscopy used to detect and quantify the specific compounds. The quality control procedures specified in the applicable methods were followed. The results of the organics analyses are presented in Appendix E.

3. RESULTS

3.1 RADIOACTIVITY

3.1.1 Radioactivity in Ash

A total of 78 ash samples from the ash pile were submitted for analysis of radioactivity. Three samples of ash currently being generated were submitted for analysis from the ash ponds at the Bissell Point Treatment Plant. All of these samples were analyzed for gross alpha activity and gross beta activity. Five samples from the ash pile were submitted in duplicate. The duplicate samples were submitted with a dummy identifier to make them appear as normal samples. A comparison of laboratory results for duplicate samples is presented in Section 3.4.

Results of the gross alpha and gross beta analyses are listed in Table 3.1. A statistical summary of these results is presented in Table 3.2. The full laboratory report is included as appendix B. Gross alpha activities for the ash pile samples ranged from 30.1 to 107 picoCuries per gram (pCi/g). The distribution of gross alpha activities is shown in Figure 3.1. The mean gross alpha activity was 51.4 pCi/g. The 90 percent and 95 percent confidence intervals are relatively small due to the large number of samples and the small standard deviation of the samples. An analysis was conducted to determine whether there was any variation in the radioactivity relative to vertical position within the ash pile. The mean gross alpha activity for the samples from the uppermost 4 feet of the ash pile was 52.8 pCi/g, which is within the 95 percent confidence interval of the mean for the entire pile. Similarly, results from the lowermost portions of the pile were within the 95 percent confidence interval for the entire pile. A slight variation in gross alpha activity exists across the pile. The mean gross alpha activity for the samples collected west of the central ramp was 55.2 pCi/g which is slightly above the 95 percent confidence limit for the entire pile. The central and eastern portions of the pile had mean gross alpha activities of 51.2 and 46.8 pCi/g, respectively.

The mean of the gross beta activity of the samples from the ash pile was 43.0 pCi/g. The large number of samples and low standard deviation resulted in narrow confidence intervals at both the 90 percent and 95 percent confidence limits. The distribution of gross beta activities is shown in Figure 3.2. Vertical variation in gross beta activity within the pile was negligible. The mean gross beta activity within the uppermost 4 feet of the pile was 43.4 pCi/g, whereas the activity of the samples collected below a depth of 6 feet was 42.3 pCi/g. These mean activities are well within the 95 percent confidence interval for the pile as a whole. Variation in gross beta activity laterally across the pile was insignificant. The highest mean gross beta activity (44.2 pCi/g) occurred in the western portion of the pile. The central portion of the pile had the lowest gross beta activity (42.1 pCi/g). The total variation was low compared to the gross alpha activity results.

Table 3.1
Gross Alpha and Gross Beta Analyses
Angelica Street Ash Pile
October 31 - November 3, 1994
(Page 1 of 3)

Sample Identification Borehole # - Top - Bottom	Measured Parameter	
	Gross Alpha ¹	Gross Beta ¹
SB01-2-4	50.0	50.4
SB01-4-6	63.6	46.5
SB01-6-8	47.5	46.5
SB02-2-4	49.9	48.3
SB02-6-8	85.6	50.1
SB02-8-9.5	43.6	41.8
SB03-2-4	57.0	45.8
SB03-4-6	49.1	39.2
SB04-2-4	55.5	46.2
SB04-6-7	59.4	47.4
SB05-2-4	45.7	37.4
SB05-6-8	52.2	39.6
SB06-2-4	52.0	47.0
SB06-6-8	66.5	46.1
SB06-13-14	41.3	25.0
SB07-2-4	56.7	40.6
SB07-4-6	61.8	37.8
SB08-0-2	60.3	43.1
SB08-6-8	60.0	42.8
SB09-0-2	48.6	44.1
SB09-6-8	71.7	47.1
SB10-2-4	107	61.4
SB10-6-8	53.5	46.0
SB11-0-2	65.4	38.2
SB11-4-6	39.7	44.1
SB11-8-9	55.0	41.4

Notes: (1) All values reported in pCi/gram

Table 3.1 - Continued
Gross Alpha and Gross Beta Analyses
Angelica Street Ash Pile
October 31 - November 3, 1994
(Page 2 of 3)

Sample Identification Borehole # - Top - Bottom	Measured Parameter	
	Gross Alpha ¹	Gross Beta ¹
SB12-0-2	48.0	43.5
SB12-2-4	42.1	47.5
SB12-8-9	46.6	42.7
SB13-0-2	67.3	47.4
SB13-6-8	45.6	41.0
SB13-8-10	49.3	42.9
SB14-0-2	48.9	35.8
SB14-4-6	38.9	41.3
SB14-8-10	45.5	43.7
SB15-2-4	64.7	44.1
SB15-6-8	41.5	40.7
SB15-8-9	57.4	43.1
SB16-0-2	49.8	42.7
SB16-4-6	40.1	36.7
SB16-8-9	38.7	34.7
SB17-2-4	71.4	45.9
SB17-4-6	67.3	49.7
SB17-6-8	44.5	37.6
SB18-2-4	60.8	47.3
SB18-4-6	51.3	44.3
SB18-6-8	64.0	50.4
SB19-0-2	38.2	33.9
SB19-4-6	36.9	35.0
SB19-6-8	42.0	34.4
SB20-0-2	47.5	41.2
SB20-4-6	61.1	54.5
SB20-8-9	52.3	41.8

Notes: (1) All values reported in pCi/gram

Table 3.1 - Continued
Gross Alpha and Gross Beta Analyses
Angelica Street Ash Pile
October 31 - November 3, 1994
(Page 3 of 3)

Sample Identification Borehole # - Top - Bottom	Measured Parameter	
	Gross Alpha ¹	Gross Beta ¹
SB22-2-4	44.5	40.1
SB22-6-7	43.3	39.9
SB23-2-4	54.2	45.1
SB23-6-8	33.7	35.0
SB24-2-4	49.9	41.1
SB24-6-8	38.8	39.0
SB25-2-4	53.6	40.1
SB25-6-8	45.0	37.6
SB26-4-6	106	71.9
SB26-6-8	41.9	42.1
SB27-2-4	52.7	37.9
SB27-6-8	36.6	37.4
SB28-2-4	50.5	48.5
SB28-6-8	35.1	44.2
SB29-2-4	43.0	43.5
SB29-4-6	30.1	44.6
SB30-2-4	46.2	45.4
SB30-6-8	42.0	41.2
SB31-2-4	43.0	39.1
SB31-6-8	48.8	48.7
SB32-2-4	35.1	41.1
SB32-6-8	55.9	43.5
SB33-0-2	31.4	36.6
SB33-4-6	41.6	38.0
SB33-8-10	43.5	41.6

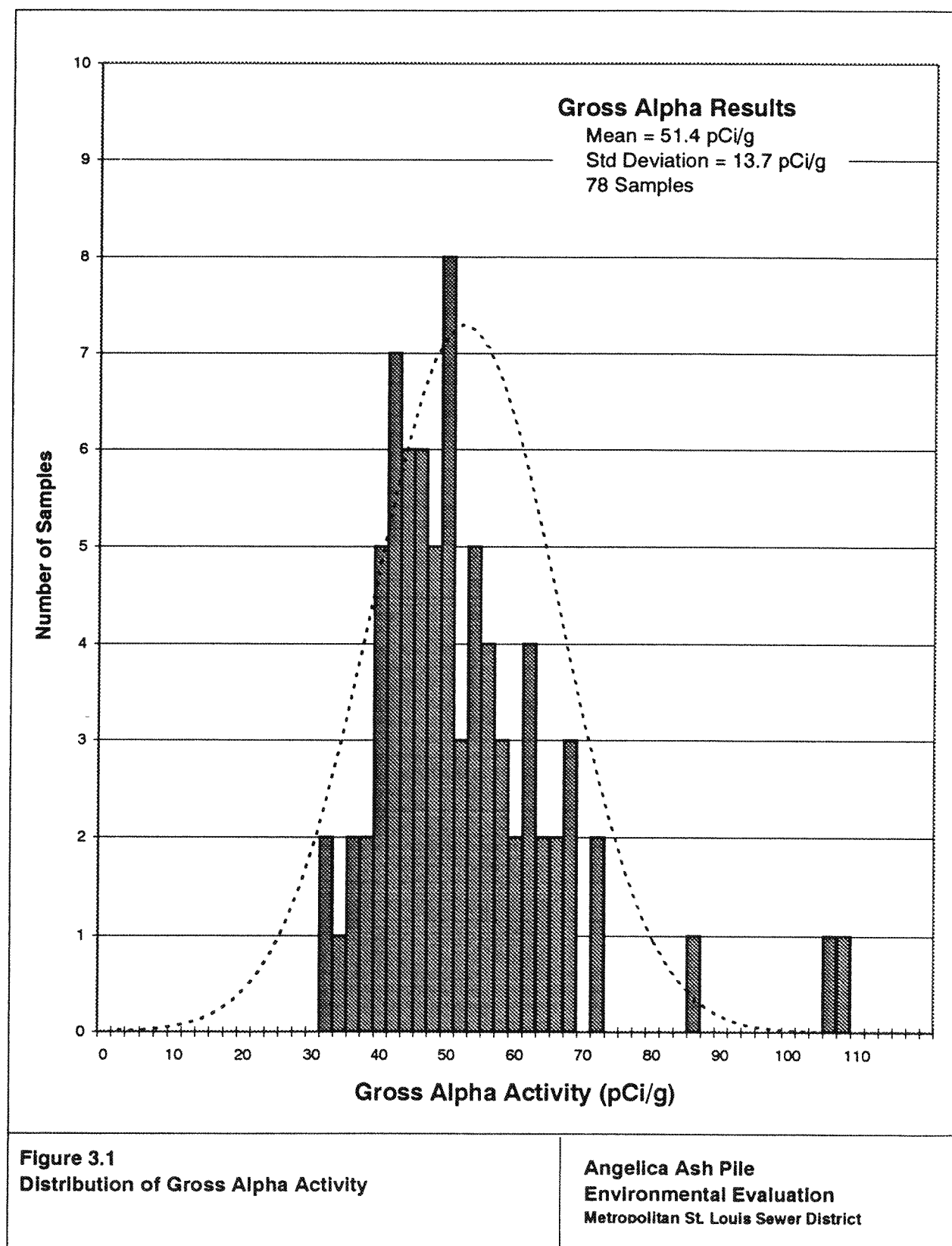
Notes: (1) All values reported in pCi/gram

Table 3.2
Gross Alpha and Gross Beta Statistical Analysis
Angelica Street Ash Pile
October 31 - November 3, 1994

Statistical Function	Measured Parameter	
	Gross Alpha ¹	Gross Beta ¹
Standard Statistics		
Number of Samples	78	78
Minimum Value	30.1	25.0
Maximum Value	107	71.9
Mean	51.4	43.0
Median	49.0	42.8
Standard Deviation	13.7	6.2
Coefficient Of Variation (%) ²	26.6	14.3
Confidence Limits ³		
95% Confidence Limit	3.0	1.4
Upper Limit	54.4	44.3
Lower Limit	48.3	41.6
90% Confidence Limit	2.5	1.1
Upper Limit	53.9	44.1
Lower Limit	48.8	41.8

- Notes: (1) All values reported in pCi/gram
(2) Coefficient of variation is the standard deviation divided by the mean
(3) Confidence is the confidence interval for a population mean and is calculated by the following equation:
For the 95% confidence -

$$\text{Confidence} = \pm 1.96 \left[\text{standard deviation} / (\text{sample size})^{1/2} \right]$$



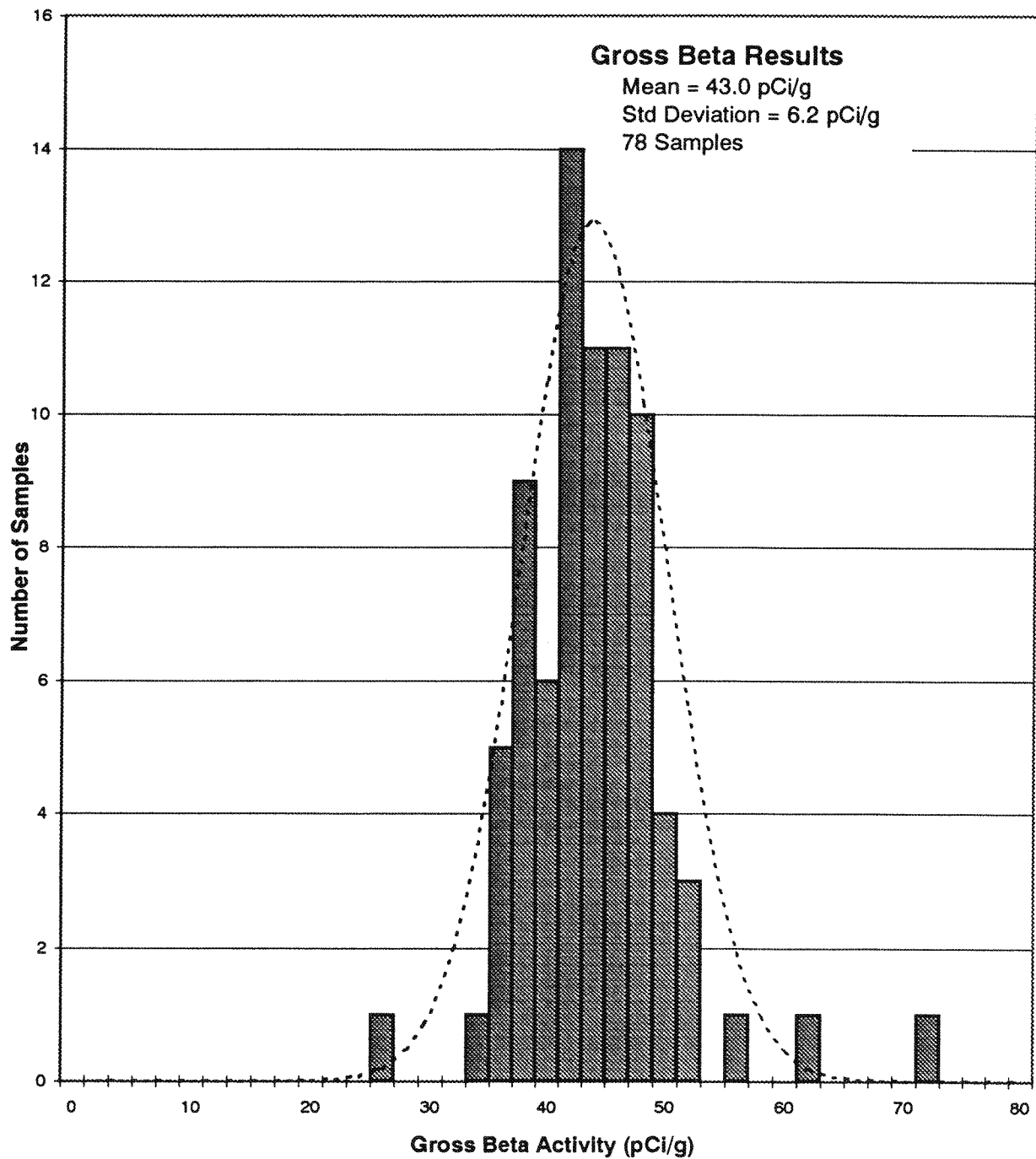


Figure 3.2
Distribution of Gross Beta Activity

Angelica Ash Pile
Environmental Evaluation
Metropolitan St. Louis Sewer District

Three samples of recently generated ash from the sludge incinerator at the Bissell Point Plant were collected for analysis of gross alpha and gross beta for comparison with the ash from the Angelica Street pile. These samples represent a baseline of radioactivity levels in ash currently being placed in the Prospect Hill Landfill. The results of these analyses are presented in Table 3.3. The mean gross alpha activity in the baseline samples is 26.9 pCi/g. The mean gross beta activity is 31.4 pCi/g. The standard deviation of the baseline samples was very low, resulting in a very narrow confidence interval. The gross alpha activity of the ash pile appears to be elevated by a factor of 2 with respect to the baseline samples. Gross beta activity is elevated in the samples from the ash pile with respect to the baseline, but to a lesser degree than with the gross alpha activity.

3.1.2 Radon Gas Emanation

Results of radon gas measurements from the ash pile are shown on Figure 3.3 and are listed in Table 3.4. Measurements of radon emanating from the ash pile ranged from 13 to 80 picoCuries per liter (pCi/l). The mean of these measurements was 52.5 pCi/l. The standard deviation of the measurements was 17 pCi/l. Radon gas concentrations on the ash pile were approximately seven times the average concentration of the two background samples. The subcontractor who conducted the radon testing, Radon Detection Systems, Inc. (RDS), provided Parsons ES with an additional background radon emanation measurement for the St. Louis area (T. Smith, RDS, pers. commun., 1995). The results of this measurement was a radon concentration of 26 pCi/l. The sample was collected in the back yard of a RDS technician in the Lemay area of south county. Mr. Smith reports that typical background radon emanation concentrations range from 10 to 20 pCi/l.

The concentration of radon emanating from the ground is controlled by several factors. A primary factor is the concentration of radionuclides in the soil. Another important factor in the emanation of radon is the permeability of the soil. A soil with a high permeability will permit radon gas to move into the confined space under the bowl. A soil with a low permeability will not allow radon gas to move readily.

It is not known how much of the elevation in radon concentration is due to elevated radioactivity in the soil and how much the elevated radon concentrations are due to differences in soil permeabilities. The permeability of the ash in the Angelica Street pile is relatively high compared to the soils in which the background samples were collected.

3.2 METALS

3.2.1 Total Metals

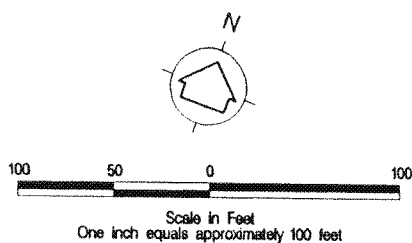
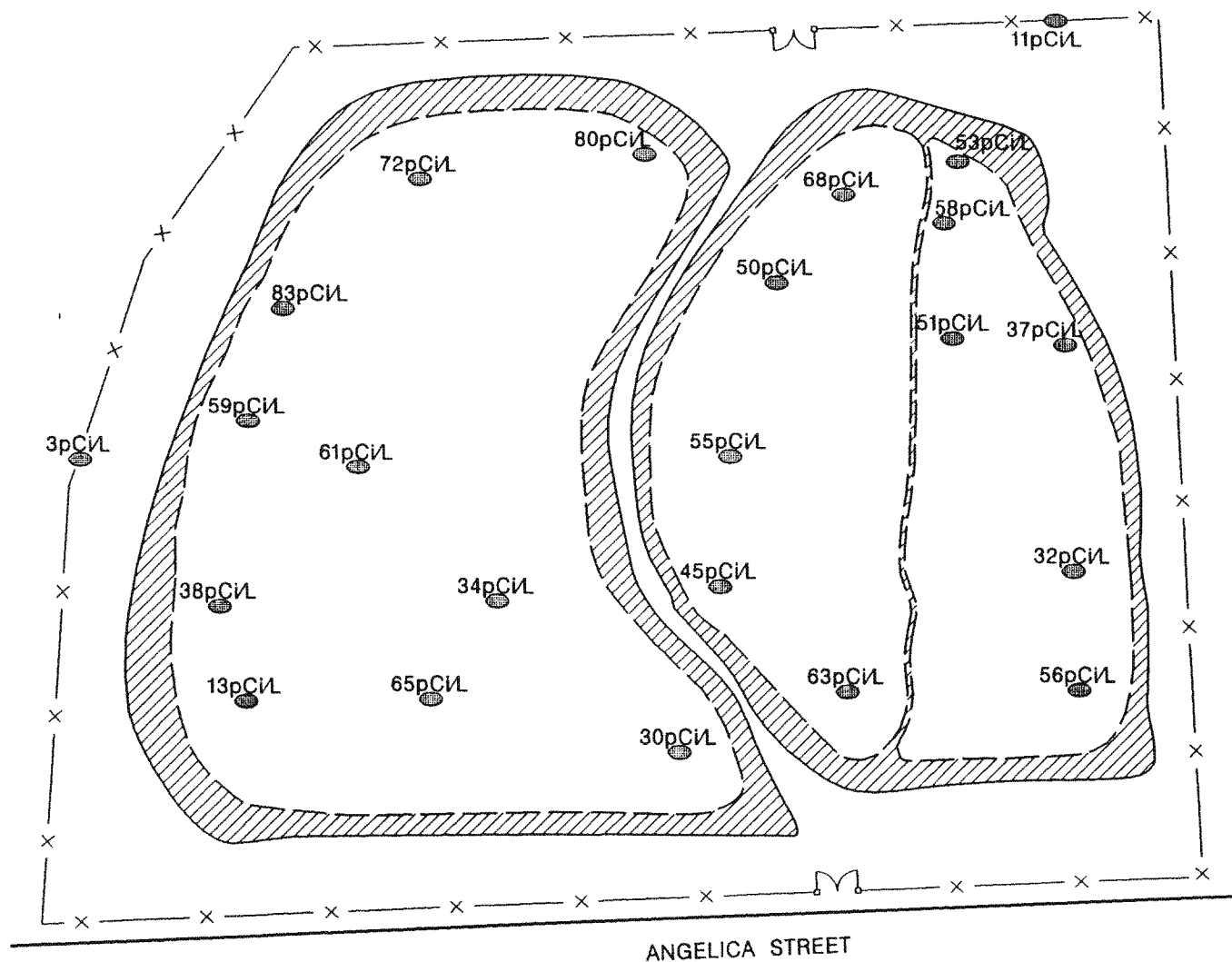
A total of 60 samples from the ash pile were submitted to the laboratory for analysis of total metals content. These samples were also analyzed for total uranium content. Three samples were submitted in duplicate to the laboratory. The results of the duplicate analysis are presented in Section 3.4. Table 3.5 lists the results of the metals analyses. The maximum concentration for each metal is listed in bold type. Minimum reported concentrations are shown in italics. A minimum is not indicated for metals that had concentrations less than the detection limit. A statistical summary of the results is presented in Table 3.6. Where the concentration was reported as below the detection

Table 3.3
Gross Alpha and Gross Beta Baseline Analyses
Angelica Street Ash Pile
October 31 - November 3, 1994

Sample Identification	Measured Parameter	
	Gross Alpha ¹	Gross Beta ¹
BG-ASH-1	24.8	31.1
BG-ASH-2	25.6	30.1
BG-ASH-3	30.4	33.0
Mean	26.9	31.4
Standard Deviation	2.5	1.2
Coefficient Of Variation (%) ²	9.2	3.8

Notes: (1) All values reported in pCi/gram

(2) Coefficient of variation is the standard deviation divided by the mean



LEGEND

- Upper Limit of Slope at perimeter of pile
- Foot Print of Ash Pile
- ▨ Slope at perimeter of pile
- x— Fence
- 38pCi/L Radon Concentration

**METROPOLITAN
ST LOUIS SEWER DISTRICT**

**FIGURE 3.3:
Radon Measurements of
Angelica Street Ash Pile**

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Table 3.4
Radon Analysis
Angelica Street Ash Pile
October 31 - November 3, 1994

Detector Number	Radon Concentration
1 (Background)	3.0
2	13.0
3	65.0
4	30.0
5	34.0
7	61.0
8	38.0
9	59.0
10	83.0
11	72.0
13	80.0
14	68.0
15	50.0
16	63.0
17	56.0
18	32.0
19	37.0
20	51.0
21	58.0
22	45.0
23	55.0
24	53.0
25 (Background)	11.0
Mean	52.5
Standard Deviation	17.0
Coefficient Of Variation (%) ²	32.4

- Notes: (1) All values reported in pCi/liter (air)
(2) Coefficient of variation is the standard deviation divided by the mean multiplied by 100
(3) Statistics exclude background samples

Table 3.5
Metals Chemical Analyses
Angelica Street Ash Pile
October 31 - November 3, 1994
(Page 1 of 8)

Measured Parameter ¹	Sample Identification (Borhole # - Top - Bottom)							
	SB01-2-4	SB01-6-8	SB02-2-4	SB02-8-9.5	SB03-2-4	SB04-2-4	SB05-6-8	SB06-6-8
Aluminum	27,500	28,800	27,700	27,500	29,100	29,700	28,500	30,400
Antimony	19.0	29.8	29.9	22.4	17.5	ND	15.6	16.1
Arsenic	13.6	12.7	13.9	13.7	13.1	12.7	ND	15.4
Barium	3,600	3,470	3,860	3,580	3,100	3,700	3,450	4,180
Beryllium	2.6	2.8	2.7	2.7	2.8	2.9	2.7	3.1
Cadmium	16.2	17.1	16.2	20.1	20.1	14.9	10.8	21.9
Calcium	71,200	64,500	71,400	70,200	82,600	72,300	97,000	70,300
Chromium	398	407	403	407	408	452	393	493
Cobalt	16.8	17.5	17.7	17.5	17.3	18.9	18.9	19
Copper	472	470	480	468	423	480	408	521
Iron	41,300	43,100	42,500	37,300	42,400	45,300	45,200	47,100
Lead	418	456	460	465	502	462	387	501
Magnesium	5,830	5,830	6,060	5,760	6,290	6,310	7,310	6,540
Manganese	542	533	559	545	569	568	597	591
Mercury	0.15	0.22	0.17	0.20	0.21	0.14	ND	0.19
Nickel	104	111	108	109	106	116	110	121
Potassium	4,170	4,520	4,190	4,230	4,530	4,230	3,900	4,930
Selenium	ND	ND	ND	ND	0.49	ND	ND	ND
Silver	ND	ND	ND	ND	ND	ND	14.7	ND
Sodium	2,450	2,430	2,430	2,450	2,440	2,640	2,330	2,670
Thallium	0.53	0.70	0.54	0.77	0.59	0.53	ND	0.78
Vanadium	118	121	119	124	104	127	108	130
Zinc	2,360	2,500	2,500	2,660	3,160	2,640	2,670	3,040
Total Uranium ²	15,800	12,000	9,030	15,000	6,690	17,400	13,100	19,700

Notes: (1) All metals values reported in milligrams per kilogram dry weight

(2) Values reported in micrograms/kilogram dry weight

ND - Not Detectable NA - Not Analyzed

Values in bold are maximum for all samples, values in italic are minimum for all samples

Table 3.5 - Continued
Metals Chemical Analyses
Angelica Street Ash Pile
October 31 - November 3, 1994
(Page 2 of 8)

Measured Parameter ¹	Sample Identification (Borhole # - Top - Bottom)							
	SB06-13-14	SB07-2-4	SB07-4-6	SB08-0-2	SB09-0-2	SB09-6-8	SB10-6-8	SB11-0-2
Aluminum	<i>15,800</i>	28,600	29,100	25,500	31,700	27,500	30,900	31,300
Antimony	ND	25.9	16.6	ND	23.3	21.8	16.1	17.7
Arsenic	34	12.7	12.6	15.1	15.2	22.3	10.9	15.5
Barium	3,050	3,420	2,940	3,490	3,750	4,190	3,080	3,680
Beryllium	ND	2.6	2.7	2.4	2.9	2.6	2.7	3.0
Cadmium	30.4	13.6	15.4	15.6	20.4	22.9	16.4	14.0
Calcium	221,000	79,100	98,100	75,300	73,600	86,400	70,000	79,600
Chromium	510	369	364	344	471	468	438	469
Cobalt	12.2	17.5	17.3	16.4	17.6	17.7	17.7	18.8
Copper	609	438	405	427	507	552	448	462
Iron	30,900	41,800	42,800	33,900	46,100	42,700	44,000	46,300
Lead	542	424	441	417	513	490	444	399
Magnesium	8,560	6,440	6,690	5,890	6,360	6,800	5,710	6,720
Manganese	553	559	587	528	588	563	494	594
Mercury	ND	0.15	0.14	0.19	0.23	0.20	ND	0.14
Nickel	111	101	101	97.2	121	123	109	121
Potassium	ND	4,140	4,320	4,180	4,950	4,370	4,890	4,450
Selenium	ND	ND	ND	1	ND	0	ND	ND
Silver	ND	ND	ND	ND	ND	ND	ND	ND
Sodium	<i>1,430</i>	2,250	2,610	2,060	2,570	2,510	2,640	2,620
Thallium	ND	0.44	0.48	0.66	0.64	0.64	0.62	0.52
Vanadium	<i>45</i>	107.0	98	102.0	126	110	121	128
Zinc	2,520	2,470	2,990	2,410	3,100	2,940	2,820	2,440
Total Uranium ²	16,500	158,000	15,300	16,500	18,400	20,100	19,600	14,100

Notes: (1) All metals values reported in milligrams per kilogram dry weight

(2) Values reported in micrograms/kilogram dry weight

ND - Not Detectable NA - Not Analyzed

Values in bold are maximum for all samples, values in italic are minimum for all samples

Table 3.5 - Continued
Metals Chemical Analyses
Angelica Street Ash Pile
October 31 - November 3, 1994
(Page 3 of 8)

Measured Parameter ¹	Sample Identification (Borhole # - Top - Bottom)							
	SB11-4-6	SB11-8-9	SB12-0-2	SB12-8-9	SB13-0-2	SB13-8-10	SB14-0-2	SB14-4-6
Aluminum	28,900	27,400	27,100	28,100	28,600	30,800	30,200	29,500
Antimony	ND	20.3	ND	16.1	16.4	ND	ND	16.3
Arsenic	17.0	13.5	16.1	13.3	13.2	14.8	33.4	11.9
Barium	5,860	2,000	4,560	3,440	3,950	4,380	2,600	3,540
Beryllium	2.9	2.7	2.6	2.7	2.6	2.9	2.9	2.6
Cadmium	20.7	16.3	17.7	18.4	15.8	21.6	15.0	10.1
Calcium	61,800	94,500	84,000	71,400	81,800	79,200	108,000	86,700
Chromium	486	377	459	470	437	473	570	407
Cobalt	20.2	15.7	14.8	15.7	15.9	15.7	14.6	15.7
Copper	487	463	464	511	526	471	444	471
Iron	47,100	37,900	38,800	39,600	39,100	42,900	37,200	40,000
Lead	560	550	470	500	474	542	523	403
Magnesium	5,950	6,750	5,250	5,890	5,670	5,860	5,670	5,660
Manganese	489	539	627	505	583	629	551	534
Mercury	0.16	0.16	0.21	0.21	0.19	0.24	0.22	0.20
Nickel	115	133	111	123	119	118	169	113
Potassium	4,620	3,750	3,900	4,460	4,860	5,160	4,250	4,670
Selenium	ND	ND	ND	ND	ND	ND	ND	ND
Silver	ND	ND	ND	ND	ND	ND	ND	ND
Sodium	2,560	2,470	2,460	2,460	2,250	2,770	2,750	2,750
Thallium	ND	0.59	ND	0.47	0.54	0.59	0.38	0.55
Vanadium	127	83.8	115	121	125	117	118	117
Zinc	3,880	1,990	4,310	2,820	2,630	4,050	2,210	2,700
Total Uranium ²	20,000	15,600	13,000	14,900	20,400	19,200	14,800	19,600

Notes: (1) All metals values reported in milligrams per kilogram dry weight

(2) Values reported in micrograms/kilogram dry weight

ND - Not Detectable NA - Not Analyzed

Values in bold are maximum for all samples, values in italic are minimum for all samples

Table 3.5 - Continued
Metals Chemical Analyses
Angelica Street Ash Pile
October 31 - November 3, 1994
(Page 4 of 8)

Measured Parameter ¹	Sample Identification (Borhole # - Top - Bottom)							
	SB15-2-4	SB15-6-8	SB16-0-2	SB16-8-9	SB17-2-4	SB17-6-8	SB18-4-6	SB18-6-8
Aluminum	28,600	24,900	26,200	31,800	27,800	28,600	28,700	27,900
Antimony	16.7	15.3	17.3	ND	ND	ND	ND	16.3
Arsenic	15.7	28.5	11.1	11.2	18.2	16.6	17.2	16.6
Barium	5,540	3,970	2,920	3,090	3,370	4,680	4,590	4,450
Beryllium	2.7	2.1	2.4	2.8	2.6	3.5	2.7	2.6
Cadmium	20.1	19.7	7.8	9.3	20.8	24.6	19.4	17.4
Calcium	82,600	127,000	94,400	94,800	103,000	67,700	80,600	101,000
Chromium	470	505	346	413	449	515	460	453
Cobalt	16.4	12.9	16.2	18.1	13.5	16.5	16.2	15.5
Copper	532	534	405	436	473	555	548	506
Iron	40,900	36,900	38,000	43,100	39,300	44,400	41,200	40,600
Lead	536	459	413	449	526	541	496	488
Magnesium	5,840	6,550	6,280	7,520	6,540	6,380	5,760	5,640
Manganese	624	617	596	645	590	636	608	674
Mercury	0.28	0.22	ND	0.20	0.23	0.35	0.16	0.22
Nickel	118	125	130	125	123	137	138	125
Potassium	4,610	3,340	3,590	4,430	3,920	4,570	4,320	4,370
Selenium	0.43	0.52	1.2	1.2	1.1	1.3	1.2	1.2
Silver	ND	ND	ND	ND	ND	ND	ND	ND
Sodium	2,540	2,300	1,850	2,530	2,820	2,600	2,310	2,310
Thallium	0.47	ND	ND	ND	ND	ND	0.50	ND
Vanadium	132	110	101	115	101	98.6	123	121
Zinc	4,330	3,370	2,350	2,410	3,350	3,050	3,360	3,460
Total Uranium ²	23,200	16,000	16,000	13,000	19,600	17,300	20,100	44,000

Notes: (1) All metals values reported in milligrams per kilogram dry weight

(2) Values reported in micrograms/kilogram dry weight

ND - Not Detectable NA - Not Analyzed

Values in bold are maximum for all samples, values in italic are minimum for all samples

Table 3.5 - Continued
Metals Chemical Analyses
Angelica Street Ash Pile
October 31 - November 3, 1994
(Page 5 of 8)

Measured Parameter ¹	Sample Identification (Borhole # - Top - Bottom)							
	SB19-0-2	SB19-6-8	SB20-0-2	SB20-8-9	SB22-2-4	SB22-6-7	SB23-2-4	SB23-6-8
Aluminum	22,500	25,500	18,200	21,800	23,500	23,800	26,800	26,100
Antimony	15.1	16.6	12.4	14.6	15.2	15.7	17.0	ND
Arsenic	9.5	11.8	10.9	23.3	11.8	10.9	13.4	10.3
Barium	2,630	3,060	2,390	3,570	2,720	3,120	3,310	3,440
Beryllium	2.1	2.3	1.7	1.8	2.1	2.3	2.5	2.3
Cadmium	5.9	7.5	10.2	12.7	14.4	11.4	17.0	7.1
Calcium	95,300	96,700	111,000	118,000	93,800	95,900	89,700	81,600
Chromium	290	317	283	400	363	371	431	347
Cobalt	13.7	14.7	10.2	11.8	12.9	13.5	15.2	15.0
Copper	346	387	316	471	427	411	470	395
Iron	30,500	34,400	30,500	34,400	32,800	33,600	36,200	39,000
Lead	309	363	431	432	413	509	466	359
Magnesium	5,220	6,060	27,500	6,770	18,400	6,220	5,510	5,930
Manganese	501	572	410	527	476	496	586	536
Mercury	0.22	0.23	0.24	0.25	0.19	0.16	0.20	ND
Nickel	96.3	103	75.5	114	103	97.8	107	98.2
Potassium	2,570	3,320	2,540	2,720	3,390	3,590	3,640	3,580
Selenium	1.2	1.0	0.38	0.76	1.4	1.0	0.98	1.1
Silver	ND	ND	ND	ND	ND	ND	ND	ND
Sodium	1,790	2,030	1,540	2,100	2,330	2,270	2,560	2,020
Thallium	ND	ND	ND	ND	ND	ND	ND	ND
Vanadium	98.4	100	91.0	94.2	110	122	118	99.1
Zinc	1,960	2,230	2,000	2,320	2,170	2,220	2,650	2,130
Total Uranium ²	12,800	13,600	10,200	15,900	16,700	14,900	14,300	15,600

Notes: (1) All metals values reported in milligrams per kilogram dry weight

(2) Values reported in micrograms/kilogram dry weight

ND - Not Detectable NA - Not Analyzed

Values in bold are maximum for all samples, values in italic are minimum for all samples

Table 3.5 - Continued
Metals Chemical Analyses
Angelica Street Ash Pile
October 31 - November 3, 1994
(Page 6 of 8)

Measured Parameter ¹	Sample Identification (Borhole # - Top - Bottom)							
	SB24-2-4	SB24-6-8	SB25-2-4	SB25-6-8	SB26-2-4	SB26-4-6	SB26-6-8	SB27-2-4
Aluminum	29,500	31,200	28,800	18,300	29,500	NA	30,900	29,500
Antimony	ND	ND	13.5	ND	14.2	NA	ND	ND
Arsenic	11.3	11.5	11.5	14.3	11.1	NA	12.0	10.3
Barium	3,330	3,270	3,070	<i>1,920</i>	4,260	NA	3,270	3,260
Beryllium	2.6	2.8	2.5	1.7	2.6	NA	2.7	2.4
Cadmium	8.4	10.2	8.9	7.0	10.4	NA	10	7.6
Calcium	83,400	88,800	89,200	<i>57,600</i>	70,700	NA	82,300	89,600
Chromium	400	421	414	236	446	NA	428	428
Cobalt	14.7	15.4	14.7	10.7	15.7	NA	15.9	13.4
Copper	440	465	417	<i>310</i>	474	NA	457	419
Iron	40,200	42,400	38,000	31,800	41,900	NA	42,200	39,700
Lead	385	439	380	414	444	NA	453	361
Magnesium	5,860	6,530	5,490	<i>4,210</i>	5,430	NA	5,830	5,870
Manganese	558	609	544	424	542	NA	549	553
Mercury	ND	ND	0.16	0.48	0.17	NA	ND	0.13
Nickel	116	124	106	80.2	118	NA	116	114
Potassium	4,810	4,650	4,300	2,650	4,310	NA	4,680	4,380
Selenium	1.3	0.89	1.1	1.0	0.93	NA	1.1	1.0
Silver	ND	ND	ND	ND	ND	NA	ND	ND
Sodium	2,330	2,560	2,560	1,570	2,370	NA	2,450	2,410
Thallium	ND	ND	ND	ND	ND	NA	ND	ND
Vanadium	111	109	110	59.0	120	NA	111	121
Zinc	2,350	2,620	2,660	<i>1,550</i>	2,910	NA	2,820	2,470
Total Uranium ²	15,500	14,100	16,700	15,400	NA	28,300	17,200	13,700

Notes: (1) All metals values reported in milligrams per kilogram dry weight

(2) Values reported in micrograms/kilogram dry weight

ND - Not Detectable NA - Not Analyzed

Values in bold are maximum for all samples, values in italic are minimum for all samples

Table 3.5 - Continued
Metals Chemical Analyses
Angelica Street Ash Pile
October 31 - November 3, 1994
(Page 7 of 8)

Measured Parameter ¹	Sample Identification (Borhole # - Top - Bottom)							
	SB27-6-8	SB28-2-4	SB28-6-8	SB29-2-4	SB29-4-6	SB30-2-4	SB30-6-8	SB31-2-4
Aluminum	28,200	26,000	27,600	28,100	28,700	29,800	33,200	29,600
Antimony	ND	11.1	ND	ND	11.1	ND	ND	ND
Arsenic	10.3	ND	11.6	10.1	ND	12.8	12.9	12.4
Barium	3,250	6,100	2,380	2,840	2,950	3,210	3,860	3,290
Beryllium	2.4	2.5	2.5	2.4	2.5	2.6	2.9	2.6
Cadmium	7.1	19.6	16.1	8.2	14.8	13.5	16.3	9.8
Calcium	84,600	63,300	68,000	80,900	67,200	77,200	82,400	83,900
Chromium	347	526	376	331	393	381	490	409
Cobalt	13.6	14.0	13.6	14.0	13.5	15.0	16.2	14.3
Copper	416	524	411	395	481	462	521	453
Iron	35,800	41,800	37,700	35,900	36,300	39,000	45,100	40,600
Lead	338	553	447	378	480	487	487	429
Magnesium	5,750	5,050	5,370	5,140	5,170	5,680	6,910	5,580
Manganese	496	545	481	496	480	550	643	527
Mercury	0.15	0.29	0.18	ND	0.17	0.20	0.18	0.15
Nickel	98.3	116	108	110	122	113	132	123
Potassium	4,210	3,820	4,850	3,880	4,540	4,950	5,330	4,370
Selenium	0.97	ND	1.2	0.82	ND	0.59	0.89	0.93
Silver	ND	19.1	ND	ND	16.7	ND	ND	ND
Sodium	2,550	2,190	2,730	2,140	2,470	2,380	2,960	2,460
Thallium	ND	ND	ND	ND	ND	0.67	0.68	ND
Vanadium	107	142	89.3	101	108	105	122	108
Zinc	2,250	3,980	2,880	2,190	2,310	2,610	3,230	2,550
Total Uranium ²	11,800	22,200	15,400	14,700	18,100	13,500	17,500	15,500

Notes: (1) All metals values reported in milligrams per kilogram dry weight

(2) Values reported in micrograms/kilogram dry weight

ND - Not Detectable NA - Not Analyzed

Values in bold are maximum for all samples, values in italic are minimum for all samples

Table 3.5 - Continued
Metals Chemical Analyses
Angelica Street Ash Pile
October 31 - November 3, 1994
(Page 8 of 8)

Measured Parameter ¹	Sample Identification (Borhole # - Top - Bottom)				
	SB31-6-8	SB32-2-4	SB32-6-8	SB33-0-2	SB33-8-10
Aluminum	31,900	31,400	28,900	26,000	28,400
Antimony	ND	ND	17.0	14.6	ND
Arsenic	13.5	11.0	14.6	10.5	16.8
Barium	4,090	3,520	4,370	2,860	3,460
Beryllium	2.8	2.6	2.8	2.3	2.3
Cadmium	18.5	9.5	17.9	6.3	9.2
Calcium	75,000	86,700	74,000	94,100	98,800
Chromium	519	451	438	437	431
Cobalt	14.6	14.2	15.4	15.0	13.4
Copper	501	444	484	355	440
Iron	45,300	42,000	40,400	41,500	40,600
Lead	534	409	546	336	387
Magnesium	5,850	5,810	5,710	5,420	7,080
Manganese	552	574	572	529	601
Mercury	0.65	ND	0.23	0.22	0.16
Nickel	128	123	110	112	123
Potassium	5,090	4,650	4,710	3,770	4,110
Selenium	1.0	0.81	0.89	1.3	1.1
Silver	ND	ND	ND	ND	ND
Sodium	2,530	2,580	2,710	1,970	2,470
Thallium	ND	ND	0.88	ND	0.48
Vanadium	118	123	117	99.9	112
Zinc	4,070	2,880	3,840	2,430	2,660
Total Uranium ²	22,000	17,700	18,100	11,900	13,500

Notes: (1) All metals values reported in milligrams per kilogram dry weight

(2) Values reported in micrograms/kilogram dry weight

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Values in bold are maximum for all samples, values in italic are minimum for all samples

Table 3.6
Total Metals Statistical Analysis
Angelica Street Ash Pile
October 31 - November 3, 1994

Measured Parameter ¹	Standard Statistics							Confidence Limits ⁴					
	Number of Samples	Minimum Value	Maximum Value	Mean	Median	Standard Deviation	Coefficient Of Variation (%) ³	95% Confidence			90% Confidence		
								Confidence	Upper Limit	Lower Limit	Confidence	Upper Limit	Lower Limit
Aluminum	60	15,800	33,200	27,807	28,600	3,286.7	11.8	831.6	28,638	26,975	697.9	28,505	27,109
Antimony	60	11.1	29.9	16.2	15.2	3.9	24.2	1.0	17.2	15.2	0.8	17.0	15.4
Arsenic	60	0.4	34.0	13.7	12.9	5.7	41.8	1.5	15.2	12.3	1.2	14.9	12.5
Barium	60	1,920	6,100	3,538	3,440	797.3	22.5	201.7	3,740	3,336	169.3	3,707	3,369
Beryllium	60	0.2	3.5	2.5	2.6	0.4	17.2	0.1	2.6	2.4	0.1	2.6	2.4
Cadmium	60	5.9	30.4	14.6	15.2	5.3	36.4	1.3	15.9	13.3	1.1	15.7	13.5
Calcium	60	57,600	221,000	86,347	82,600	22,276	25.8	5,636.6	91,983	80,710	4,730.4	91,077	81,616
Chromium	60	236	570	420	425	62.9	15.0	15.9	436	404	13.4	433	406
Cobalt	60	10.2	20.2	15.4	15.5	2.0	13.3	0.5	16.0	14.9	0.4	15.9	15.0
Copper	60	310	609	458	464	56.6	12.4	14.3	472	444	12.0	470	446
Iron	60	30,500	47,100	39,822	40,500	4164.6	10.5	1053.8	40,875	38,768	884.3	40,706	38,937
Lead	60	309	560	454	455	61.1	13.5	15.5	469	438	13.0	467	441
Magnesium	60	4,210	27,500	6,594	5,865	3,219	48.8	814.5	7,409	5,780	683.6	7,278	5,911
Manganese	60	410	674	556	553	51.8	9.3	13.1	569	543	11.0	567	545
Mercury	60	0.12	0.65	0.20	0.19	0.08	41.0	0.02	0.22	0.18	0.02	0.22	0.18
Nickel	60	75.5	169	115	115	13.9	12.1	3.5	118	111	2.9	118	112
Potassium	60	1,230	5,330	4,158	4,315	728.9	17.5	184.4	4,342	3,973	154.8	4,312	4,003
Selenium	60	0.36	1.4	0.75	0.75	0.33	44.3	0.08	0.84	0.67	0.07	0.82	0.68
Silver	60	14.7	150	51.6	29.0	43.2	83.7	10.9	62.5	40.7	9.2	60.7	42.4
Sodium	60	1,430	2,960	2,388	2,455	305.7	12.8	77.4	2,466	2,311	64.9	2,453	2,323
Thallium	60	0.33	0.88	0.49	0.46	0.12	24.6	0.03	0.52	0.46	0.03	0.52	0.47
Vanadium	60	44.5	142	111	112	15.8	14.3	4.0	115	107	3.4	114	107
Zinc	60	1,550	4,330	2,774	2,645	603.9	21.8	152.8	2,927	2,621	128.2	2,902	2,646
Total Uranium ²	59	6,690	44,000	16,656	15,800	5,030	30.2	1,283	17,940	15,373	1,077	17,733	15,579

Notes: (1) All metals values reported in milligrams per kilogram dry weight

(2) Values reported in micrograms/kilogram dry weight

(3) Coefficient of variation is the standard deviation divided by the mean

(4) Confidence is the confidence interval for a population mean and is calculated by the following equation:

For the 95% confidence - $\text{Conf.} = \pm 1.96 [\text{standard deviation}/(\text{sample size})^{1/2}]$

limit, the concentration of the sample for the purpose of the statistical analysis was assumed to equal the detection limit. This may skew the data toward higher concentrations than are actually present. Silver was detected at concentrations greater than the detection limit in only three samples. Therefore, the statistical analysis of silver concentrations should be considered an upper limit. The laboratory report for the total metals analysis is presented in Appendix C. Laboratory data for the total uranium analyses are included in Appendix B.

Mean concentrations for the metals analyzed varied widely. The most abundant metals were calcium, aluminum and iron. Coefficients of variation for the various metals ranged from very low (iron, aluminum, nickel and copper) to very high (uranium and silver). This indicates that the distribution of some metals is relatively homogeneous, whereas others are heterogeneous. The mean concentration of arsenic, barium, cadmium, chromium, lead, mercury and silver were greater in the solid (in parts per million) than the regulatory levels allowed in leachate for the toxicity characteristic (40 CFR 261). Metals in incinerator ash are typically in the oxide form, which has a very low solubility.

The mean arsenic concentration for the samples collected from the central portion of the ash pile was 16.9 milligrams per kilogram (mg/kg) compared to 11.9 mg/kg for the eastern portion of the pile. Vertical variation of arsenic concentrations appeared to be insignificant. Cadmium concentrations in the samples from the western portion of the ash pile were elevated in comparison to samples from the eastern portion of the pile. Mercury concentrations of samples from both the central and eastern portions of the ash pile were elevated with respect to the western portion of the pile. Barium, chromium and lead concentrations were relatively consistent across the pile. Cadmium concentrations in samples from the upper 4 feet of the pile averaged 13.5 mg/kg compared to an average concentration of 15.1 mg/kg for samples below 4 feet. Mercury concentrations in samples from depths below 6 feet were 0.22 mg/kg compared to 0.19 mg/kg for samples from above 6 feet.

A total of 60 samples were analyzed for total uranium content. Laboratory results are reported as concentrations in $\mu\text{g/kg}$. The reported concentrations can be converted into an activity (in pCi/g) by multiplying by 6.9×10^{-4} . This conversion assumes a natural distribution of uranium isotopes (D. Sears, Quanterra Labs, written communication). Reported uranium concentrations had a very wide range. All of the uranium concentrations reported were in the range of 6,690 to 45,000 $\mu\text{g/kg}$ except for the sample from SB-07-SS1-2-4, which had a reported concentration of 158,000 $\mu\text{g/kg}$ (109 pCi/g). The distribution of total uranium concentrations is shown in Figure 3.4. The reliability of this value is considered suspect due to several factors. The presence of uranium at almost four times the concentration of the next lowest sample should correlate with higher gross alpha and gross beta activity. The gross alpha and gross beta activities measured for this sample were both very close to the mean values for the respective parameters, and thus are not considered to be elevated. Screening of the split spoon sample did not indicate an elevated level of radioactivity. Therefore this single value is treated as an outlier, and was not used in computing the statistics.

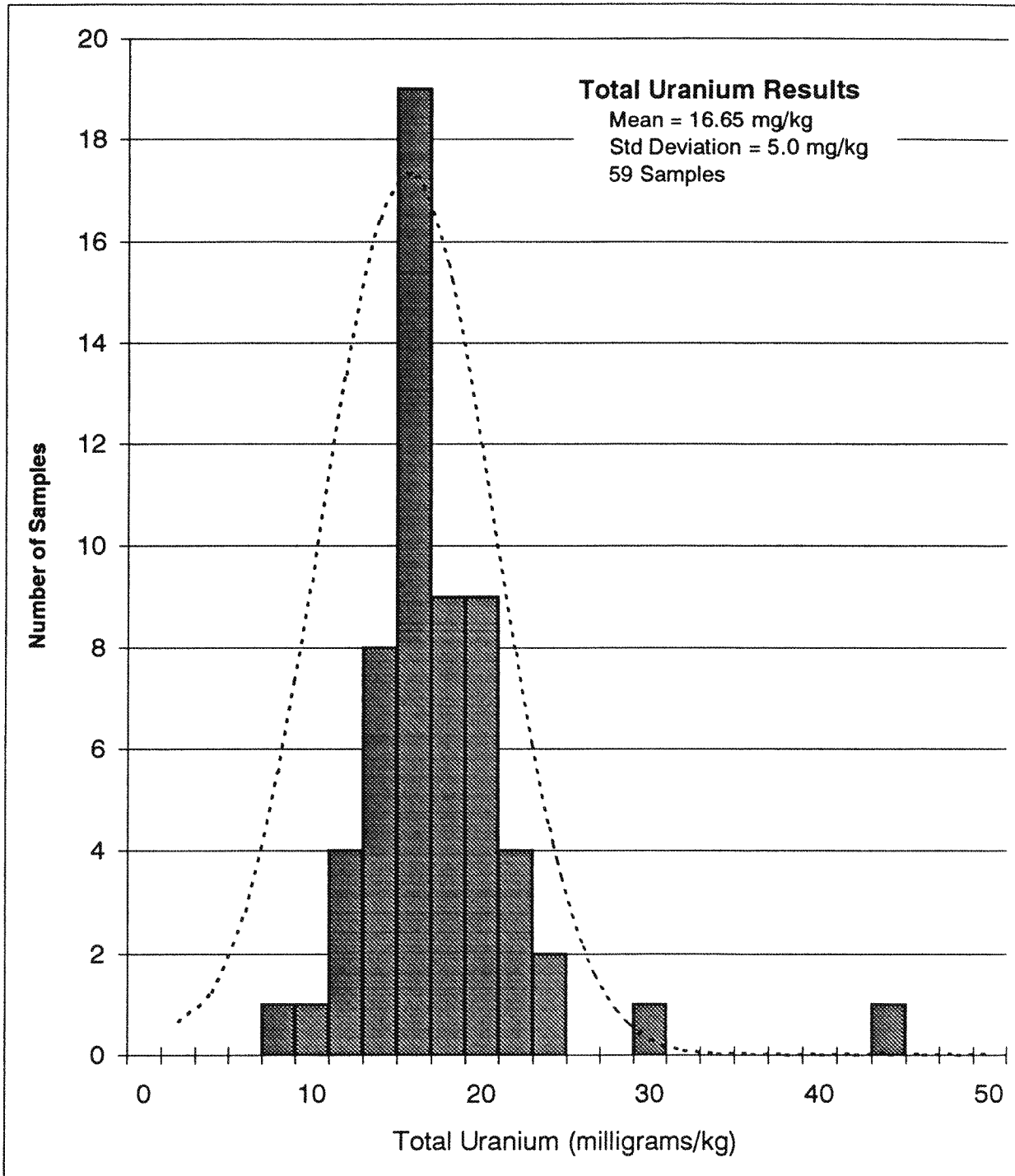


Figure 3.4
Distribution of Total Uranium

Angelica Ash Pile
Environmental Evaluation
Metropolitan St. Louis Sewer District

The mean uranium concentration of the samples analyzed from the ash pile was 16,700 µg/kg (12.2 pCi/g). The 95 percent confidence interval for the mean uranium concentration ranges from 15,400 to 17,900 µg/kg (10.6 to 12.3 pCi/g). Variation of uranium concentration vertically through the pile was insignificant. The mean uranium concentration for samples from the central portion of the pile was 18,500 µg/kg (12.5 pCi/g). The samples from the western portion of the pile had a mean uranium concentration of 15,100 µg/kg (10.4 pCi/g).

The field geologist placed a thermoluminescent detector (TLD) on his collar throughout the field investigation. The TLD was used in this investigation due to the lack of information about possible personnel exposures. This TLD was intended to determine compliance with Nuclear Regulatory Commission guidelines concerning radiation exposure to site workers. The TLD was worn for a total of 5 days at the site. Analysis of the TLD indicated that the total dosage received was below detectable levels. The laboratory reports that the minimum detectable radiation level is 10 millirem. Because no exposure was detected, future work at the ash pile should not require monitoring with TLDs.

3.2.2 TCLP Metals

TCLP extraction and analysis was performed on 10 samples. These analyses were conducted to evaluate whether the ash might be considered to be a hazardous waste by exhibiting the toxicity characteristic. The samples for which the TCLP analyses were performed were selected based upon the results of the total metals analyses. Because total metals analyses were completed on the sample prior to selection for TCLP analysis, the holding times prior to extraction were exceeded. The holding time for extraction is based on analyses for parameters that are not as stable as metals. The exceeded extraction holding times are not likely to compromise the reliability of the results. Metals considered most likely to leach with concentrations exceeding the toxicity characteristic included lead, chromium and barium. Maximum reported total concentrations of these metals in mg/kg (equivalent to parts per million) are 35 to 100 times the regulatory level for the TCLP extract (in mg/L, also equivalent to parts per million). The samples submitted for analysis were the samples with the highest concentrations of lead, chromium and barium.

Table 3.7 lists the results of the TCLP analyses. Laboratory reports for the analyses are included as Appendix D. The analytical results for the TCLP analyses did not detect any of the eight metals for which RCRA guidelines have been established in the extraction fluids. These metals include arsenic, barium, cadmium, chromium, lead, mercury, selenium and silver. This indicates that although the ash contains significant concentrations of these metals, they are in a form that is not readily leached from the ash.

3.3 VOLATILES / SEMIVOLATILES

Three samples were collected from the ash pile using a hand auger for volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs) analyses. These samples were collected to address concerns from MDNR personnel about vinyl chloride and phenols surviving the incineration process. Sample HA1-3-4 was collected adjacent

Table 3.7
Toxicity Characteristic Leaching Procedure (TCLP) Test Results
Angelica Street Ash Pile
October 31 - November 3, 1994

Measured Parameter	Detection Limit ¹	Regulatory Level ¹	Sample Identification (Boring # - Top - Bottom)									
			SB11-4-6	SB13-8-10	SB14-0-2	SB15-2-4	SB22-6-7	SB17-2-4	SB17-6-8	SB28-2-4	SB31-6-8	SS32-6-8
Arsenic	2.0	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Barium	0.80	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	0.020	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	0.080	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead	0.40	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Mercury	0.0002	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium	1.0	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver	0.040	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes: ND - Not Detected at the listed Detection Limit

(1) All reported values in milligrams/liter

to SB-09. Samples HA2-3-4 and HA3-3-4 were collected adjacent to boreholes SB-17 and SB-28, respectively. None of the VOC's that were analyzed were found at concentrations at or above the detection limits for any of the three samples. Table 3.8 lists several compounds that were detected in both the samples and the laboratory blank or were qualified as estimated concentrations. These reported concentrations ranged from equal to the detection limit to well below the detection limit.

Table 3.9 lists semivolatile target compounds that were detected in the analyses. All compounds that were detected were identified by the laboratory as estimated (J). The reported concentrations were below the reported detection limits for each compound. The laboratory reports for VOCs and SVOCs are presented in Appendix E. None of the compounds identified as a part of the VOC and SVOC analyses are considered significant due to the very low reported concentration and the qualification of the results.

3.4 DUPLICATE ANALYSIS

Five samples were submitted to the laboratory in duplicate as a quality control check of the analyses. The duplicate samples were given a sample identifier that was indistinguishable to the laboratory from other samples. All five pairs of duplicate samples were analyzed for gross alpha and gross beta activity. Three of the sample pairs were analyzed for total metals and total uranium. Analytical results for the gross alpha and gross beta analyses are presented in Table 3.10. The difference in the reported activity was less than one standard deviation for each duplicate pair except for sample SB04-SS2-6-7 and its duplicate SB04-SS3-9-10. The results for these samples differed by 15.6 pCi/g, compared to the standard deviation of 13.7 pCi/g.

Analytical results for the metals analyses for the duplicate pairs are presented in Table 3.11. In general, the difference between the reported concentration for the sample and its duplicate were less than one standard deviation. The reported total uranium concentrations for sample SB01-SS1-2-4 and its duplicate, SB01-SS4-14-16, differed by 7,500 µg/kg, compared to the standard deviation of 5,030 µg/kg. It is important to note that the relative percent difference between the samples was very high. Several metals had differences slightly exceeding one standard deviation for the other two duplicate pairs. These include iron, manganese and thallium for the duplicate pair from SB-08 and cobalt, nickel and sodium for the duplicate pair from SB-16. The relative difference for these analyses were much smaller than for the reported uranium results from the SB-01 duplicate pair. These results indicate that, in general, the accuracy and precision of the analyses was adequate.

3.5 ASHPILE VOLUME

The volume of the Angelica Street ash pile was estimated based on the thickness of ash identified in the boreholes and on the surveyed area of the pile. The measured thickness of the ash at each borehole is shown in Figure 3.5. One of the early assumptions about the pile was that it was constructed on a flat lot and would therefore have a relatively flat base. Data obtained from the boreholes indicated that this was not the case, but that the ash pile was placed on top of fill that was mounded on the site. The fill

Table 3.8
Volatile Organic Chemical Analysis
Angelica Street Ash Pile
October 31 - November 3, 1994

Measured Parameter ¹	Detection Limit ¹	Sample Identification		
		HA1-3-4	HA2-3-4	HA3-3-4
Chloroethane	8	8B	1B	8B
Methylene Chloride	150	36BJ	38BJ	21BJ
Toluene	7	3J	3J	3J
1,1,2,2 Tetrachloroethane	8	ND	ND	1J
4-Methyl-2-Pentanone	75	ND	ND	3J

Notes: (1) Values reported in micrograms/kilogram dry weight

ND - Not Detected at the reported Detection Limits (detection limits vary slightly)

J - Compound detected at an estimated concentration below detection limit

B - Compound detected in both sample and laboratory blank

Table 3.9
Semivolatile Organic Chemical Analysis
Angelica Street Ash Pile
October 31 - November 3, 1994

Measured Parameter ¹	Detection Limit ¹	Sample Identification		
		HA1-3-4	HA2-3-4	HA3-3-4
4-Methylphenol	490	140J	ND	ND
Fluoranthene	490	75J	140J	110J
Pyrene	490	68J	150J	110J
Butylbenzylphthalate	490	230BJ	380BJ	240BJ
bis(2-ethylhexyl)Phthalate	490	100J	130J	160J
Phenanthrene	490	ND	74J	ND
Benzo(a)Anthracene	490	ND	60J	ND
Benzo(b)Fluoranthene	490	ND	140J	ND
Benzo(a)Pyrene	490	ND	53J	ND
4-Chloroaniline	490	ND	ND	350J
Chrysene	490	ND	100J	78J

Notes: (1) Values reported in micrograms/kilogram dry weight

ND - Not Detected at the reported Detection Limits (detection limits vary slightly)

J - Compound detected at an estimated concentration below detection limit

B - Compound detected in both sample and laboratory blank

Table 3.10
Duplicate Gross Alpha and Gross Beta Analyses
Angelica Street Ash Pile
October 31 - November 3, 1994

Duplicate Pair	Measured Parameter	
	Gross Alpha ¹	Gross Beta ¹
SB01-2-4	50.0	50.4
SB01-14-16	45.8	46.1
SB04-6-7	59.4	47.4
SB04-9-10	75.0	47.7
SB08-0-2	60.3	43.1
SB08-16-18	69.4	38.7
SB12-0-2	48.0	43.5
SB12-10-12	43.8	49.3
SB16-0-2	49.8	42.7
SB16-10-12	58.2	37.8

Notes: (1) All values reported in pCi/gram

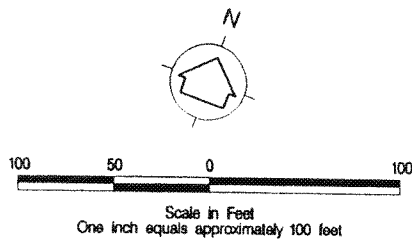
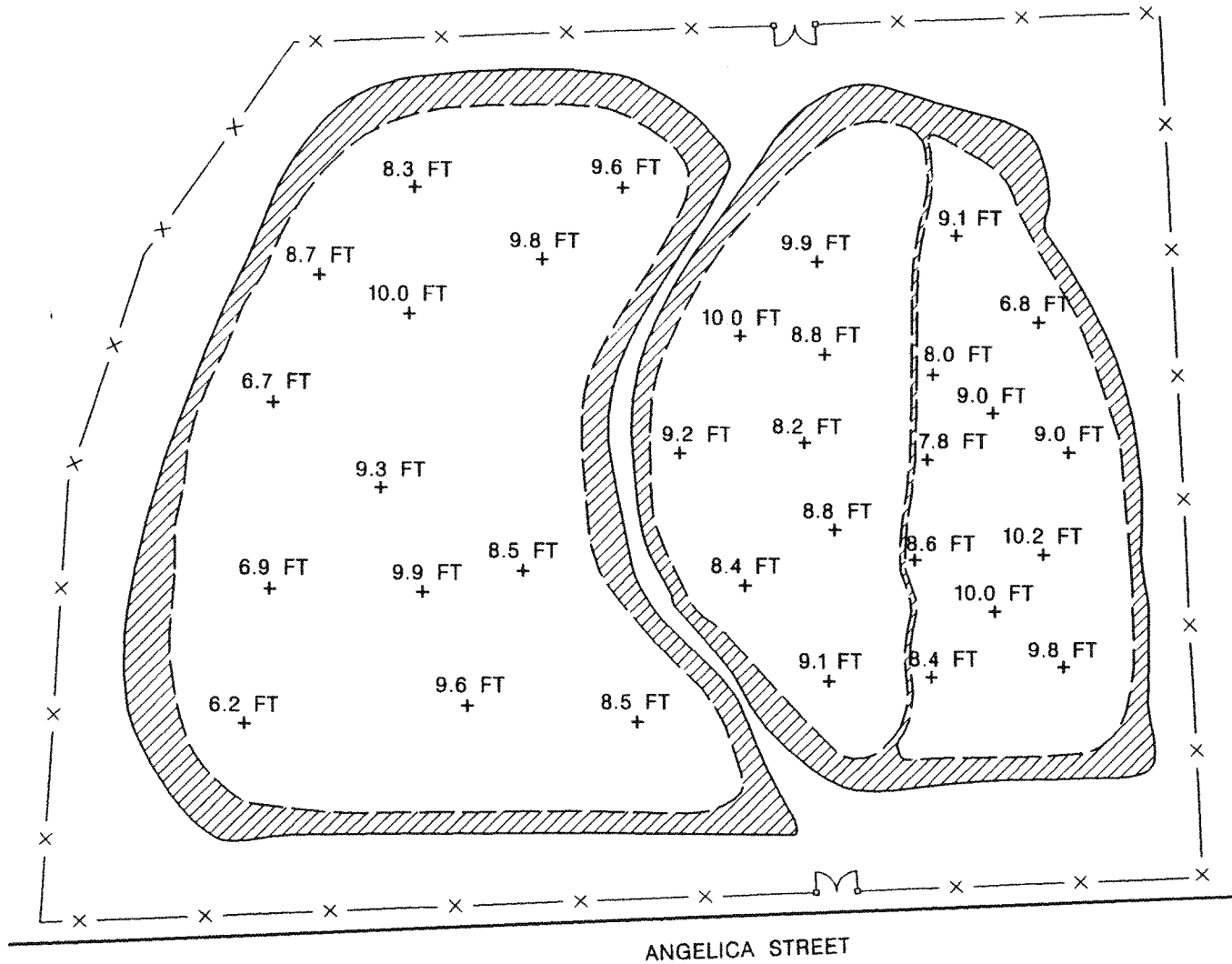
Table 3.11
Duplicate Metals Analyses
Angelica Street Ash Pile
October 31 - November 3, 1994

Measured Parameter ¹	Duplicate Pairs					
	SB01-2-4	SB01-14-16	SB08-0-2	SB08-16-18	SB16-0-2	SB16-10-12
Aluminum	27,500	27,400	25,500	28,700	26,200	26,600
Antimony	19.0	ND	ND	17.0	17.3	ND
Arsenic	13.6	17.0	15.1	15.7	11.1	12.0
Barium	3,600	3,710	3,490	3,390	2,920	3,320
Beryllium	2.6	2.5	2.4	2.6	2.4	2.3
Cadmium	16.2	15.3	15.6	14.8	7.8	8.5
Calcium	71,200	78,400	75,300	81,100	94,400	91,500
Chromium	398	405	344	396	346	361
Cobalt	16.8	17.2	16.4	17.9	16.2	14.0
Copper	472	471	427	451	405	411
Iron	41,300	41,600	33,900	43,200	38,000	36,600
Lead	418	408	417	433	413	418
Magnesium	5,830	6,200	5,890	6,600	6,280	6,110
Manganese	542	549	528	588	596	576
Mercury	0.15	0.17	0.19	0.17	ND	ND
Nickel	104	108	97.2	110	130	106
Potassium	4,170	4,350	4,180	4,870	3,590	3,980
Selenium	ND	ND	0.55	ND	1.2	1.1
Silver	ND	ND	ND	ND	ND	ND
Sodium	2,450	2,310	2,060	2,120	1,850	2,210
Thallium	0.53	0.52	0.66	0.42	ND	ND
Vanadium	118	109	102	105	101	87.0
Zinc	2,360	2,530	2,410	2,470	2,350	2,560
Total Uranium ²	15,800	8,300	16,500	16,100	16,000	14,200

Notes: (1) All metals values reported in milligrams per kilogram dry weight

(2) Values reported in micrograms/kilogram dry weight

ND - Not Detectable



LEGEND

- Upper Limit of Slope at perimeter of pile
- Foot Print of Ash Pile
- ▨ Slope at perimeter of pile
- x— Fence
- 6.2 FT + Ash Pile Thickness (feet)

**METROPOLITAN
ST LOUIS SEWER DISTRICT**

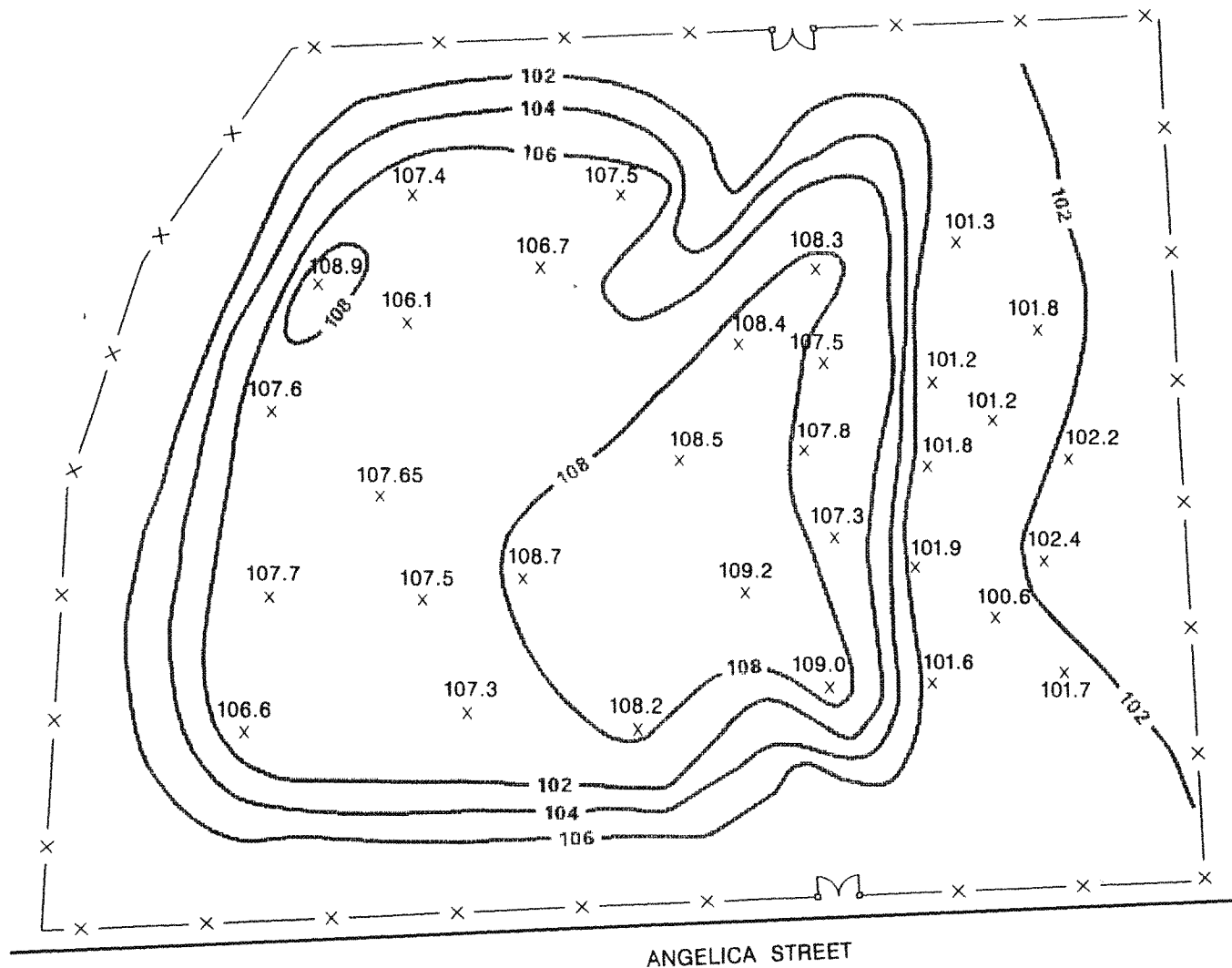
**FIGURE 3.5:
Measured Thickness of
Angelica Street Ash Pile**

PARSONS ENGINEERING SCIENCE
St. Louis, Missouri






appeared to contain normal construction debris, coal fragments and soil. Figure 3.6 shows the elevation of the bottom of the ash pile. There is an obvious mound located near the center of the pile. Observations during the installation of the boreholes indicate that the ramp that bisects the ash pile contains no ash, but is basically the top of the mound shown in Figure 3.6. One result of this finding is that the estimated volume of the ash in the pile is less than was initially anticipated.

Theissian polygons were constructed on the surveyed map of the borehole locations. The area of each polygon was measured with a planimeter. The area of the polygon was multiplied by the measured thickness of the ash to determine the volume associated with each polygon. The volume of each polygon was added to determine the volume of the ash pile. The area of the edge polygons was measured in two ways. The first was to consider the polygon to extend to the edge of the ash pile footprint. This will tend to slightly overestimate the ash volume because the slope at the edge of the pile is not accounted for. The ash pile volume estimated using these measurements should be considered to be an upper limit. The volume of the ash in the pile not taking the edge slope into consideration is estimated to be 73,266 cubic yards. A second way in which the area of the edge polygons were measured was to measure to the estimated midpoint of the slope. This method considers the thinning of the pile at the edge, and may be a more accurate estimation of the volume of the ash pile. The volume estimated from the measurements to the midpoint of the edge slope is 60,440 cubic yards. Initial estimates of the ash volume were approximately 90,000 cubic yards, based on the assumption of a flat bottom. The pile also contains approximately 16,000 yards of fill. The fill appeared to be comprised of normal construction debris, soil and coal fragments. Verification of the content of the fill is recommended during relocation of the pile.



100 50 0 100
Scale in Feet
One inch equals approximately 100 feet

LEGEND

-  Contours of Ash Pile
-  Fence
-  Spot Elevations
(Relative to arbitrary datum)

**METROPOLITAN
ST LOUIS SEWER DISTRICT**

FIGURE 3.6: Base Contours of Angelica Street Ash Pile

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St. Louis, Missouri



4. REGULATORY ANALYSIS

4.1 INTRODUCTION

MSD wishes to dispose of the ash at the Prospect Hill Landfill. The purpose of this regulatory analysis is to evaluate any regulations that would prevent disposal at this facility. The Prospect Hill Landfill is permitted for the disposal of municipal sewage sludge incinerator ash and construction debris not containing wood or metal under rules of the Missouri Department of Natural Resources (MDNR), Solid Waste Management Program. The MDNR was contacted to determine if there are any provisions which would prohibit disposal of the ash from the Angelica Street site. Two issues of concern identified by the Solid Waste Management Program were the radioactivity and the possibility that the material would be classified as a hazardous waste under the Resource Conservation and Recovery Act (S. Jones, MDNR, Solid Waste Management Program, pers. commun., 1994).

4.2 METALS

Disposal of the ash in the Angelica Street pile could potentially be regulated under the Resource Conservation and Recovery Act (RCRA). The ash would be considered a hazardous waste if it exhibits ignitability, corrosivity, reactivity or toxicity characteristics. The fact that the sludge was incinerated to generate the ash indicates that the ash is not ignitable or reactive. If the ash were corrosive, the TCLP results would indicate leaching. Sampling of the ash as a part of this investigation was intended to evaluate whether the metals content of the ash would result in the ash meeting the definition of toxicity. The definition of toxicity is based on concentrations of specific chemicals in leachate obtained from the sample. The chemical list is given in 40 CFR 261. Based upon the concentration of total metals in the ash samples, TCLP analyses were conducted to evaluate whether the leachate would contain concentrations that are above the thresholds given in 40 CFR 261. The results of the TCLP analysis indicated that the ash does not exceed any of the toxicity thresholds for metals.

4.3 ORGANIC COMPOUNDS

Discussions with the MDNR Hazardous Waste Enforcement Unit indicated a concern that phenols or vinyl chloride may have survived the incineration process (T. Judge, MDNR, Hazardous Waste Enforcement Unit, pers. commun., 1994). Three samples were collected and analyzed for volatile organic compounds and semivolatile organic compounds. Volatile or semi-volatile organic compounds were not detected at concentrations greater than the detection limit. Therefore, the ash does not meet the definition of a hazardous waste with respect to RCRA.

4.4 RADIOACTIVITY

Guidelines or regulations do not exist which apply to radioactivity in incinerator ash from municipal sewage sludge. Reports that the EPA has proposed a standard could not be verified. The EPA, NRC and the Water Environment Federation are working on drafting guidance for radioactivity in wastewater solids (G. Cooper, EPA, Existing Chemicals Branch, pers. commun., 1995). The first draft of the proposed guidance is anticipated in July 1995.

The EPA has prepared a working draft of a proposed Radiation Site Cleanup Regulation. Review of this draft indicates that the EPA will base cleanup levels on site-specific risk based analysis rather than specific activity or concentration based guidelines. The working draft proposes cleanup to a level that would limit dosages to any member of the public to 15 millirem per year from all potential pathways under a residential land use scenario. This generally corresponds to a risk level of 1×10^{-4} . How this standard would relate to the ash at the Angelica Street site is not known, as risk assessment was beyond the scope of this investigation.

The NRC has developed proposed guidelines for the decommissioning of licensed sites. The guidelines are different if the source is natural uranium than if the source is enriched uranium. For a natural uranium source the criteria for unrestricted release of the site is 10 pCi/g total uranium. For an enriched uranium source, the criteria is 30 pCi/g. These values are above background (R. Glinski, NRC, Decommissioning Section, pers. commun., 1995). Typical background concentrations range from 0.5 to 2.5 pCi/g. Based on this information, the ash in the Angelica Street pile would be very close to this guideline. It is important to note that the Angelica Street site has never been an NRC licensed facility. After considering the results of this investigation, Mr. Glinski notified Parsons Engineering Science that the radiation levels that were detected were below the Decommissioning Section's level of concern.

Given the lack of concentration or activity based guidelines, it is important to evaluate the cleanup criteria established or proposed for cleanups of nearby sites. The Formerly Used Site Remedial Action Program (FUSRAP) is proposing to clean up a number of sites in the metropolitan St. Louis area that contain contaminants from the processing of nuclear materials. Proposed cleanup criteria for this work are 100 pCi/g total uranium, and 50 pCi/g U^{238} (compared to approximately 12 pCi/g total uranium from the Angelica Street site). These action levels will have to be approved by the EPA. The MDNR has been given the opportunity to comment on the cleanup levels, but has no regulatory authority. These cleanup levels were selected based on risk analysis, and are considered to be protective of the public health. Every effort will be made to leave soils containing levels of radioactivity above background but below the action levels in place (D. Addler, DOE, FUSRAP project, pers. commun., 1995).

Cleanup criteria for uranium at the Weldon Springs site are based on a site-specific risk assessment. The action level for uranium (specifically U^{238}) is 120 pCi/g. Background concentrations for uranium at the Weldon Springs site are approximately 1.2 pCi/g. Cleanup criteria for radium and thorium are based upon standards included in the

Uranium and Thorium Mill Tailings rule, 40 CFR 192. The standard for both radium and thorium is 5 pCi/g above background. Considering backgrounds concentration of 1.5 pCi/g for both radium and thorium, the cleanup criteria is 6.5 pCi/g (J. Bennett, MK Ferguson, Documentation Group, pers. commun., 1995). Reported uranium activities for the samples from the Angelica Street site averaged 12.2 pCi/g, which is considerably lower than the risk-based cleanup standards developed for the two large scale cleanups being conducted in the area.

4.5 CONCLUSIONS

The Resource Conservation and Recovery Act (RCRA) establishes regulatory guidelines for the definition of a hazardous waste. The results of this investigation indicate that the ash in the Angelica Street pile is not a hazardous waste with respect to RCRA. Metals were detected in the ash as expected for residues from the incineration process. The metals were in an oxidized state that was not mobile.

There are no regulations that directly regulate the disposal of incinerator ash containing radioactive isotopes. The ash from the Angelica Street pile lower levels of radioactivity than proposed guidelines for the decommissioning of nuclear processing facilities licensed by the NRC. The ash is well below the cleanup criteria proposed for the FUSRAP cleanup. The ash also meets cleanup standards established for the Weldon Springs site. The cleanup criteria for both of these cleanups are based on site specific risk assessments.

The review of regulatory requirements indicates that there are no known regulations that would prevent disposal of the ash in the Prospect Hill Landfill.

5. ASH REMOVAL

Analyses of samples from the Angelica Street ash pile indicate that the samples contain slightly more radioactivity than the ash currently being generated by the incinerator at the Bissell Point Treatment Plant. The gross alpha activity of the ash is approximately two times the level considered to be background at the Weldon Springs site. Although the radioactivity is slightly elevated, it is not at a level that would require the ash to be handled as a radioactive material. Analysis of the ash for the toxicity characteristic indicated that metals were not likely to leach from the ash. In order to allow the Angelica Street property to be put to different uses, it is recommended that the ash be moved to the Metropolitan St. Louis Sewer District's Prospect Hill Ash Landfill.

Transferring the ash from the Angelica Street pile to the Prospect Hill Landfill should be conducted in a similar manner as the transfer of the ash currently in the ash ponds. Front-end loaders are used to place the ash from the ponds into dump trucks. When full, the load in the truck is covered and the ash is hauled to the Prospect Hill Landfill. At the landfill, the ash is dumped. When the ash reaches the desired thickness, the cover of the landfill is installed. The additional risk of moving the Angelica Street pile compared to ash from the Bissell Point ash ponds is minimal due to the only slight increase in radioactivity.

Because the ash is being removed from a topographically high area rather than the depression of the ash pond, efforts should be made to minimize the potential for the ash to blow away. These efforts should include expedited transfer of the ash and possibly wetting down the ash surface to minimize blowing. Site workers should be prepared to use air purifying respirators with particulate cartridges if blowing ash becomes a problem (this recommendation should be applied to removal of the ash from the ponds also). If blowing of the load in the dump truck is noted in transit to the landfill, a water spray can be set up to wet the upper surface of the ash prior to the truck leaving the ash pile. Personnel at the landfill should watch for signs that the ash is blowing excessively prior to installation of the cover. If excessive blowing is noted, the surface should be wetted or a thin covering of soil should be placed on the ash.

The need for thermoluminescent detectors (TLDs) during the excavation of the ash was not indicated by the data collected as a part of this investigation.

6. SUMMARY AND CONCLUSIONS

The ash pile on the Metropolitan St. Louis Sewer District's Angelica Street property was constructed in the early 1980's. The ash in the pile was generated early in the operation of the Bissell Point Treatment Plant. Since the middle 1980's, ash from the Bissell Point Treatment Plant has been disposed of at the Prospect Hill Landfill, which is operated by the Metropolitan Sewer District (MSD) for this purpose. The character of the ash at the Angelica Street location may be different from the ash that has been disposed of at the Prospect Hill Landfill. Metals pretreatment processes have been instituted to reduce the metals content of the wastewater (and the resulting ash) and the potential for release of wastewater that could potentially contain radionuclides has decreased since the ash in the Angelica Street pile was generated.

MSD would like to move the ash at the Angelica Street site to the Prospect Hill Landfill. In order to confirm that this is an appropriate disposal option, the characteristics of the ash needed to be established. The concentration of total metals and the level of radioactivity were determined by sampling and analysis of the Angelica Street ash pile. A total of 78 samples were analyzed for gross alpha activity and gross beta activity. Total metals analyses were conducted on 60 samples. The samples submitted for analysis were collected from 32 boreholes distributed throughout the ash pile to assess variation of the characteristics of the ash across the pile. Samples were also collected from a range of depths within the pile so that vertical variations in metals content or level of radioactivity could be assessed.

The total metals analyses indicated that the ash could exhibit the toxicity characteristic (with respect to 40 CFR 261) if the metals were leachable. Ten of the ash samples with the highest total metals concentrations were analyzed using the TCLP procedure to evaluate whether the material exhibited the toxicity characteristic. None of the leachate generated from the TCLP procedure contained detectable concentrations of metals. This indicates that the ash is not a hazardous waste as defined under the Resource Conservation and Recovery Act (RCRA). Therefore metals content is not a factor in the selection of a disposal alternative.

The laboratory results for gross alpha and gross beta activity indicated that the ash pile contained slightly elevated levels of radioactivity. The average gross alpha activity was 51 pCi/g. This appears to be about two times the gross alpha activity that is considered to be background at the Weldon Springs Site. Three samples of ash that were recently generated indicated an average gross alpha activity of 27 pCi/g, which is in the same range as the reported background concentration. The small standard deviation and relatively small range of reported gross alpha activities indicates that the alpha activity in the ash pile is relatively uniform. Gross beta activity in the ash pile averaged 43 pCi/g. The background ash samples averaged 31 pCi/g. Thus, the beta activity in the ash pile is

only slightly greater than the activity in the recently produced ash. The range and standard deviation was smaller for gross beta analyses than for gross alpha analyses. This confirms that the level of radioactivity in the ash pile is relatively homogenous.

Uranium concentrations reported for the samples from the ash pile varied over a wider range than other parameters, particularly gross alpha and gross beta. The average concentration reported was 16,000 µg/kg. This reported average excludes one sample which appeared to be an anomalous report. The reported uranium concentration was considered anomalous due to the fact that there was no indication of elevated radioactivity from the screening of the sample with a radiation detector and that the gross alpha activity and the gross beta activity were not elevated. In terms of activity, the uranium content averaged 11.5 pCi/g. Measurements of radon emanating from the ash pile indicated that radon concentrations confined at the surface of the ash pile averaged approximately ten times the average of the two background samples. The average radon concentration on the ash pile was approximately twice the concentration of a background sample reported in the Lemay area of south county. Two factors that contribute to the elevated radon concentrations on the ash pile are the slightly elevated radioactivity in the ash pile and the high permeability of the ash.

Definitive standards for disposal of materials containing low levels of radioactivity have not been established. One problem with developing a guideline is that all materials contain some natural radioactivity. Background levels of radioactivity vary widely across the country. Proposed cleanup standards for the Formerly Used Site Remediation Action Program (FUSRAP) sites in the metropolitan St. Louis area are 100 pCi/g total uranium and 50 pCi/g U^{238} . The reported uranium activity of the samples from the ash pile average an order of magnitude below the proposed FUSRAP action level.

Removal of the ash from the Angelica Street site to the MSD's Prospect Hill Landfill is reasonable disposal alternative since the ash is not a hazardous waste and since the radioactivity level is only slightly elevated above background. The low levels of radioactivity in the ash will not require special measures during removal and disposal in the Prospect Hill Landfill. Dust control measures may be needed to control blowing ash during loading due to the higher topographic position of the Angelica Street pile.

7. REFERENCES

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- Environmental Protection Agency, 1994, Staff Working Draft of the Radiation Site Cleanup Regulation, dated 11 May 1994.
- Geller, B., 1995, memorandum of phone conversation with B. Geller, MDNR Hazardous Waste Program, Federal Facilities Section, dated 26 January 1995.
- Glinski, R., 1995, memorandum of phone conversation with R. Glinski, NRC Decommissioning Section, Chicago, dated 22 February 1995.
- Jones, S., 1994, memorandum of phone conversation with S. Jones, MDNR Solid Waste Management Program, dated 9 November 1994.
- Judge, T., 1994, memorandum of phone conversation with T. Judge, Acting Chief MDNR Hazardous Waste Enforcement Unit, dated 20 December 1994.
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- Tschirgi, D., 1995, memorandum of phone conversation with D. Tschirgi, MDNR Hazardous Waste Program, Federal Facilities Section, dated 26 January 1995.

APPENDIX A

BORING LOGS

APPENDIX B

LABORATORY REPORTS

FOR RADIOLOGICAL ANALYSES

APPENDIX C

LABORATORY REPORTS

FOR TOTAL METALS ANALYSES

APPENDIX D

LABORATORY REPORTS

FOR TCLP ANALYSES

APPENDIX E

LABORATORY REPORTS

FOR ORGANICS ANALYSES

Draft Environmental Evaluation Angelica Street Ash Pile Appendicies A - E

Prepared For:
**Metropolitan St. Louis Sewer District
10 East Grand Avenue
St. Louis, Missouri 63147**

February 1995



Submitted by:
**PARSONS ENGINEERING SCIENCE, INC.
Suite 330
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St. Louis, Missouri 63017-3427**

APPENDIX A

BORING LOGS

Parsons Engineering Science St. Louis, Missouri					Log of Boring SB-01				
PROJECT: <i>MSD Angelica St. Ash Pile</i>					LOCATION: <i>Near C-6</i>				
PROJECT NO.: <i>726589.01000</i>					SURFACE ELEVATION: <i>116.96 ft. MSL</i>				
DATE STARTED: <i>31 October 1994</i>					INITIAL WATER LEVEL:				
DATE FINISHED: <i>31 October 1994</i>					STATIC WATER LEVEL:				
DRILLING METHOD: <i>Hollow Stem Auger/Split-Spoon</i>					TOTAL DEPTH: <i>12.0 Feet</i>				
DRILLING COMPANY: <i>Burlington Environmental</i>					GEOLOGIST: <i>Lee Gorday</i>				

DEPTH feet	SAMPLE NO.	BLOWS/6 IN	Rad (microRem/Hr)		GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	REMARKS
			VALUES	PROFILE				
		3,3 3,4	21	<div style="width: 100%; height: 10px; background-color: black;"></div>			ASH, compact, very fine SAND to SILT, non-cohesive, damp, medium to dark gray.	30% recovery spoons hammered
	SS1 2-4 SS4 14-16	1,1 2,3	20	<div style="width: 100%; height: 10px; background-color: black;"></div>				40% recovery
5	SS2 4-6	3,3 4,5	22	<div style="width: 100%; height: 10px; background-color: black;"></div>				20% recovery
	SS3 6-8	3,3 3,5	18	<div style="width: 100%; height: 10px; background-color: black;"></div>				20% recovery
		5,12 12,13	20	<div style="width: 100%; height: 10px; background-color: black;"></div>				80% recovery
10		5,7 12,17					FILL at 8.5 ft., SILT, little SAND (coarse) and GRAVEL, compact, non-cohesive, moist, dark brown.	
							FILL, SILT and SAND with little GRAVEL, compact, non-cohesive, moist brown to grayish brown.	
							Total Depth 12.0 feet.	
15								
20								
25								

Parsons Engineering Science St. Louis, Missouri						Log of Boring SB-02					
PROJECT: MSD Angelica St. Ash Pile						LOCATION: West of C-5					
PROJECT NO.: 726589.01000						SURFACE ELEVATION: 116.91 ft. MSL					
DATE STARTED: 31 October 1994						INITIAL WATER LEVEL:					
DATE FINISHED: 31 October 1994						STATIC WATER LEVEL:					
DRILLING METHOD: Hollow Stem Auger/Split-Spoon						TOTAL DEPTH: 12.0 Feet					
DRILLING COMPANY: Burlington Environmental						GEOLOGIST: Lee Gorday					
DEPTH feet	SAMPLE NO.	BLOWS/6 IN	Rad (microRem/Hr)		GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	REMARKS			
			VALUES	PROFILE							
5	SS1 2-4	1,2, 2,2	21				ASH, loose, SILT to SAND (fine), non-cohesive, medium to dark gray.	10% recovery Spoons driven with hammer.			
		1,1, 1,1	17						10% recovery		
		1,1, 2,2	22							25% recovery	
	SS2 6-8	1,2, 2,4	20								20% recovery
	SS3 8-9.5	2,3, 3,5	18								
6,8, 8,8	18		80% recovery								
10							FILL at 9.6 ft. SAND, some SILT, compact, damp, light reddish brown.	80% recovery			
										Total Depth 12.0 feet.	
15											
20											
25											

Parsons Engineering Science St. Louis, Missouri						Log of Boring SB-03		
PROJECT: MSD Angelica St. Ash Pile						LOCATION: Between C-2 and C-3		
PROJECT NO.: 726589.01000						SURFACE ELEVATION: 112.77 ft. MSL		
DATE STARTED: 31 October 1994						INITIAL WATER LEVEL:		
DATE FINISHED: 31 October 1994						STATIC WATER LEVEL:		
DRILLING METHOD: Hollow Stem Auger/Split-Spoon						TOTAL DEPTH: 8.0 Feet		
DRILLING COMPANY: Burlington Environmental						GEOLOGIST: Lee Gorday		
DEPTH feet	SAMPLE NO.	BLOWS/6 IN	Rad (microRem/Hr)		GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	REMARKS
			VALUES	PROFILE				
5		1,1 4,4	17				ASH, loose, SILT and SAND (fine), dark gray, damp.	10% recovery spoons hammered
	SS1 2-4	2,1 1,1	17					10% recovery
	SS2 4-6	2,2 3,5	14				Interlayered ASH and FILL.	60% recovery
		3,6 7,9	14				FILL at 6.2 ft. FILL, SILT and SAND, compact, damp, yellowish brown.	80% recovery
10							Total Depth 8.0 feet.	
15								
20								
25								

Parsons Engineering Science

St. Louis, Missouri

Log of Boring SB-04

PROJECT: MSD Angelica St. Ash Pile

LOCATION: West of D-3

PROJECT NO.: 726589.01000

SURFACE ELEVATION: 114.64 ft. MSL

DATE STARTED: 31 October 1994

INITIAL WATER LEVEL:

DATE FINISHED: 31 October 1994







STATIC WATER LEVEL:

DRILLING METHOD: Hollow Stem Auger/Split-Spoon








TOTAL DEPTH: 8.0 Feet



DRILLING COMPANY: Burlington Environmental

GEOLOGIST: Lee Gorday

DEPTH feet	SAMPLE NO.	BLOWS/6 IN	Rad (microRem/Hr)		GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	REMARKS
			VALUES	PROFILE				
		1,2, 2,2	13				ASH, SILT and SAND, loose, damp, dark gray to dark brown.	10% recovery, spoons hammered
	SS1 2-4	2,2, 2,4	22					20% recovery
5		2,2, 3,5	18					20% recovery
	SS2 6-7 SS3 9-10	1,1, 13,15	24				FILL at 6.9 ft., SILT, some SAND, medium to dark brown, compact, damp. Total Depth 8.0 feet.	60% recovery
10								
15								
20								
25								











Parsons Engineering Science St. Louis, Missouri						Log of Boring SB-06			
PROJECT: MSD Angelica St. Ash Pile						LOCATION: Near E-4			
PROJECT NO.: 726589.01000						SURFACE ELEVATION: 116.95 ft. MSL			
DATE STARTED: 1 November 1994						INITIAL WATER LEVEL:			
DATE FINISHED: 1 November 1994						STATIC WATER LEVEL:			
DRILLING METHOD: Hollow Stem Auger/Split-Spoon						TOTAL DEPTH: 26.0 Feet			
DRILLING COMPANY: Burlington Environmental						GEOLOGIST: Lee Gorday			
DEPTH feet	SAMPLE NO.	BLOWS/6 IN	Rad (microRem/Hr)		GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	REMARKS	
			VALUES	PROFILE					
5	SS1 2-4		23				ASH, SILT and SAND (fine), loose, damp, dark gray.	40% recovery, spoons pushed to a depth of 10 feet	
			14						20% recovery
			17						80% recovery
	SS2 6-8		19						40% recovery
			19						100% recovery
		7,14, 17,19	20						40% recovery, spoons hammered below 10 feet
		5,6, 7,7	16						100% recovery
		5,6, 7,7	21						100% recovery
		5,7, 11,12	21						50% recovery
		2,3, 4,5	19						80% recovery
SS3 13-14		4,6, 5,7	14		70% recovery				
		15,7, 8,9			no recovery				
		3,6, 3,6	14						
20									
25									
						Total Depth 26.0 feet.			

Parsons Engineering Science St. Louis, Missouri						Log of Boring SB-07					
PROJECT: MSD Angelica St. Ash Pile						LOCATION: Between E-3 and F-3					
PROJECT NO.: 726589.01000						SURFACE ELEVATION: 114.33 ft. MSL					
DATE STARTED: 1 November 1994						INITIAL WATER LEVEL:					
DATE FINISHED: 1 November 1994						STATIC WATER LEVEL:					
DRILLING METHOD: Hollow Stem Auger/Split-Spoon						TOTAL DEPTH: 18.0 Feet					
DRILLING COMPANY: Burlington Environmental						GEOLOGIST: Lee Gorday					
DEPTH feet	SAMPLE NO.	BLOWS/6 IN	Rad (microRem/Hr)		GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	REMARKS			
			VALUES	PROFILE							
5	SS1 2-4		21				ASH, SILT, loose, dark gray, damp	50% recovery, spoons pushed to a depth of 8 feet			
			17								
	SS2 4-8	15								FILL at 6.7 ft., SILT, some SAND, compact, damp, moderate brown.	40% recovery
		13									
10	30,31, 32,33	10					FILL, SILT, some SAND, compact, damp, moderate brown, one zone of SILT, light gray, very uniform texture and color	80% recovery, spoons hammered below 8 feet			
		12									
	8,12, 10,10	11								FILL, SAND and SILT, well graded, olive.	40% recovery
		3,4, 5,7	15								
15	6,7, 7,5	14					FILL, SILT, dark gray, damp, moderately compact.	30% recovery			
		3,3, 4,7	15								
20										FILL, SAND and GRAVEL (fine), black, organic, interbedded with SAND and SILT, olive brown.	20% recovery
25							FILL, SAND and GRAVEL, organic, with brick fragments.	25% recovery			

Parsons Engineering Science St. Louis, Missouri					Log of Boring SB-08			
PROJECT: MSD Angelica St. Ash Pile					LOCATION: Between F-3 and G-4			
PROJECT NO.: 726589.01000					SURFACE ELEVATION: 117.58 ft. MSL			
DATE STARTED: 1 November 1994					INITIAL WATER LEVEL:			
DATE FINISHED: 1 November 1994					STATIC WATER LEVEL:			
DRILLING METHOD: Hollow Stem Auger/Split-Spoon					TOTAL DEPTH: 16.0 Feet			
DRILLING COMPANY: Burlington Environmental					GEOLOGIST: Lee Gorday			
DEPTH feet	SAMPLE NO.	BLOWS/6 IN	Rad (microRem/Hr)		GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	REMARKS
			VALUES	PROFILE				
5	SS1 0-2 SS4 16-18		12				ASH, SILT, dark gray, loose, damp.	60% recovery, spoons pushed to depth of 10 feet
		11				30% recovery hard zone at 2.8 feet		
		10				10% recovery		
	SS2 6-8	14				40% recovery		
		14				60% recovery		
10		3,4, 6,5	15				FILL at 8.7 ft., SAND, some SILT, compact reddish brown.	30% recovery, spoons hammered below 10 feet
	1,3, 4,5	17				FILL, SILT, some SAND, dark reddish brown.	25% recovery	
	3,3, 3,4	13				FILL, SILT, some SAND, dark reddish brown and light gray wet, rock in sampler shoe. Total Depth 16.0 feet.	20% recovery	
15								
20								
25								

Parsons Engineering Science St. Louis, Missouri						Log of Boring SB-09		
PROJECT: MSD Angelica St. Ash Pile						LOCATION: Between F-4 and F-5		
PROJECT NO.: 726589.01000						SURFACE ELEVATION: 116.14 ft. MSL		
DATE STARTED: 1 November 1994						INITIAL WATER LEVEL:		
DATE FINISHED: 1 November 1994						STATIC WATER LEVEL:		
DRILLING METHOD: Hollow Stem Auger/Split-Spoon						TOTAL DEPTH: 16.0 Feet		
DRILLING COMPANY: Burlington Environmental						GEOLOGIST: Lee Gorday		
DEPTH feet	SAMPLE NO.	BLOWS/6 IN	Rad (microRem/Hr)		GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	REMARKS
			VALUES	PROFILE				
5	SS1 0-2		12				ASH, SILT, medium gray, damp, loose.	30% recovery, spoons pushed to 10 feet
		15		70% recovery				
		15		10% recovery				
	SS2 6-8	12		80% recovery				
		13		60% recovery				
		13		60% recovery, spoons hammered below 10 feet				
10		7,30, 35,12	13				FILL at 10.0 ft., SILT and SAND, some rock fragments, moderate reddish brown.	60% recovery, spoons hammered below 10 feet
		7,10, 35,12	15				FILL, SAND and SILT, stratified on mm scale, yellowish brown.	50% recovery
		7,10, 19,21	18				FILL, SAND, some SILT, salt and pepper texture, pale brown and dark yellowish brown.	80% recovery
15							Total Depth 16.0 feet.	
20								
25								

Parsons Engineering Science St. Louis, Missouri						Log of Boring SB-10		
PROJECT: MSD Angelica St. Ash Pile						LOCATION: Between G-4 and H-5		
PROJECT NO.: 726589.01000						SURFACE ELEVATION: 115.70 ft. MSL		
DATE STARTED: 1 November 1994						INITIAL WATER LEVEL:		
DATE FINISHED: 1 November 1994						STATIC WATER LEVEL:		
DRILLING METHOD: Hollow Stem Auger/Split-Spoon						TOTAL DEPTH: 16.0 Feet		
DRILLING COMPANY: Burlington Environmental						GEOLOGIST: Lee Gorday		
DEPTH feet	SAMPLE NO.	BLOWS/6 IN	Rad (microRem/Hr)		GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	REMARKS
			VALUES	PROFILE				
5	SS1 2-4		13				ASH, SILT, lose, dark gray, damp, uniform.	60% recovery, spoons pushed to 10 feet
			20			60% recovery		
			18			50% recovery		
	10	SS2 6-8		13				FILL at 8.3 ft., SILT, some SAND (fine), slightly laminated, reddish brown.
			17		50% recovery			
8,10, 20,15			12		FILL, SAND, some SILT, well graded, reddish brown, moist.	90% recovery, spoons hammered below 10 feet		
15		5,8, 14,12		20		FILL, SAND, some SILT, compact, stratified, reddish brown.	60% recovery	
	10,12, 14,12		14		70% recovery			
					FILL, SAND and SILT, COAL fragments, dark gray, compact, moist.			
20						Total Depth 16.0 feet.		
25								

Parsons Engineering Science						Log of Boring SB-11		
St. Louis, Missouri								
PROJECT: MSD Angelica St. Ash Pile						LOCATION: Between G-5 and G-6		
PROJECT NO.: 726589.01000						SURFACE ELEVATION: 116.49 ft. MSL		
DATE STARTED: 2 November 1994						INITIAL WATER LEVEL:		
DATE FINISHED: 2 November 1994						STATIC WATER LEVEL:		
DRILLING METHOD: Hollow Stem Auger/Split-Spoon						TOTAL DEPTH: 16.0 Feet		
DRILLING COMPANY: Burlington Environmental						GEOLOGIST: Lee Gorday		
DEPTH feet	SAMPLE NO.	BLOWS/6 IN	Rad (microRem/Hr)		GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	REMARKS
			VALUES	PROFILE				
5	SS1 0-2		16				ASH, SILT, some SAND, loose, dark gray, damp.	70% recovery, spoons pushed to 10 feet
			13					70% recovery
	SS2 4-6		25					70% recovery
			18					10% recovery
10	SS3 8-9		11					80% recovery
		5.6, 6.7	18				FILL at 9.8 ft., SILT and SAND, multi-layered pink, olive and moderate brown in pods.	60% recovery, spoons hammered below 10 feet
		5.6, 6.7	17				FILL, SILT, some SAND, compact, olive.	80% recovery
15		4.5, 7.9	17					FILL, SILT and SAND, some GRAVEL and brick fragments, olive brown with pods of light gray SILT.
							Total Depth 16.0 feet.	
20								
25								

Parsons Engineering Science

St. Louis, Missouri

Log of Boring SB-12

PROJECT: MSD Angelica St. Ash Pile

LOCATION: Near H-6

PROJECT NO.: 726589.01000

SURFACE ELEVATION: 117.13 ft. MSL

DATE STARTED: 2 November 1994

INITIAL WATER LEVEL:

DATE FINISHED: 2 November 1994

STATIC WATER LEVEL:

DRILLING METHOD: Hollow Stem Auger/Split-Spoon







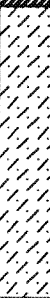



TOTAL DEPTH: 16.0 Feet

DRILLING COMPANY: Burlington Environmental

GEOLOGIST: Lee Gorday

DEPTH feet	SAMPLE NO.	BLOWS/8 IN	Rad (microRem/Hr)		GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	REMARKS
			VALUES	PROFILE				
	SS1 0-2		17				ASH, SILT, loose, dark gray, uniform, damp.	60% recovery, spoons pushed to 10 feet
	SS2 2-4		17					80% recovery
	SS4 10-12		15					10% recovery
5			21					50% recovery
	SS3 8-9		19					80% recovery
10		4,8, 9,12	20				FILL at 9.6 ft., SILT, some SAND, lenses organics, soft to firm, dark yellowish, damp.	70% recovery, spoons hammered below 10 feet
		4,5, 7,8	21				FILL, SILT, few rock fragments, compact, damp, light yellowish brown.	50% recovery
15		2,2, 8,10	12				FILL, SAND and SILT, reddish brown to light gray, compact, damp.	
							Total Depth 16.0 feet.	
20								
25								

Parsons Engineering Science St. Louis, Missouri					Log of Boring SB-13		
PROJECT: <i>MSD Angelica St. Ash Pile</i>					LOCATION: <i>Near G-8</i>		
PROJECT NO.: <i>726589.01000</i>					SURFACE ELEVATION: <i>118.22 ft. MSL</i>		
DATE STARTED: <i>2 November 1994</i>					INITIAL WATER LEVEL:		
DATE FINISHED: <i>2 November 1994</i>					STATIC WATER LEVEL:		
DRILLING METHOD: <i>Hollow Stem Auger/Split-Spoon</i>					TOTAL DEPTH: <i>16 Feet</i>		
DRILLING COMPANY: <i>Burlington Environmental</i>					GEOLOGIST: <i>Lee Gorday</i>		

DEPTH feet	SAMPLE NO.	BLOWS/6 IN	Rad (microRem/Hr)		GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	REMARKS
			VALUES	PROFILE				
5	SS1 0-2		24				ASH, SILT, loose, dark gray, damp.	60% recovery, spoons pushed to 10 feet
			18					60% recovery
			16					20% recovery
	SS2 8-8		16					60% recovery
10	SS3 8-10		12				FILL at 9.9 ft., SILT, some SAND, pods of pink and moderate reddish brown, compact, damp.	70% recovery
		5.7, 9.12	17					100% recovery, spoons hammered below 10 feet
		6.8, 10.7	15					60% recovery
15		6.8, 6.8	17				FILL, SILT, little SAND, compact, brown, damp.	60% recovery
20							Total Depth 16.0 feet.	
25								

Parsons Engineering Science

St. Louis, Missouri

Log of Boring SB-14

PROJECT: MSD Angelica St. Ash Pile

LOCATION: Between F-7 and G-8

PROJECT NO.: 726589.01000

SURFACE ELEVATION: 118.44 ft. MSL

DATE STARTED: 2 November 1994

INITIAL WATER LEVEL:

DATE FINISHED: 2 November 1994











STATIC WATER LEVEL:

DRILLING METHOD: Hollow Stem Auger/Split-Spoon

TOTAL DEPTH: 16.0 Feet

DRILLING COMPANY: Burlington Environmental

GEOLOGIST: Lee Gorday

DEPTH feet	SAMPLE NO.	BLOWS/8 IN	Rad (microRem/Hr)		GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	REMARKS
			VALUES	PROFILE				
			0	50				
	SS1 0-2		17				ASH, SILT, loose, uniform dark gray, damp.	60% recovery, spoons pushed to 10 feet
			21					50% recovery
5	SS2 4-8		24					90% recovery
			16					60% recovery
	SS3 8-10		18					20% recovery
10		6,9, 9,10	16				FILL at 10.0 ft., SILT, some SAND, compact, damp yellowish red.	100% recovery, spoons hammered below 10 feet
		4,5, 3,10	15				FILL, SILT, some SAND, mixture of reddish brown, dark gray and light gray, compact, damp.	80% recovery
15		2,3, 6,8	18					
							Total Depth 16.0 feet.	
20								
25								

Parsons Engineering Science

St. Louis, Missouri

Log of Boring SB-15

PROJECT: MSD Angelica St. Ash Pile

LOCATION: Near F-8

PROJECT NO.: 726589.01000

SURFACE ELEVATION: 117.28 ft. MSL

DATE STARTED: 2 November 1994

INITIAL WATER LEVEL:

DATE FINISHED: 2 November 1994

STATIC WATER LEVEL:


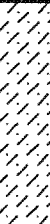
DRILLING METHOD: Hollow Stem Auger/Split-Spoon

TOTAL DEPTH: 14.0 Feet

DRILLING COMPANY: Burlington Environmental

GEOLOGIST: Lee Gorday

DEPTH feet	SAMPLE NO.	BLOWS/6 IN	Rad (microRem/Hr)		GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	REMARKS
			VALUES	PROFILE				
			0	50				
5	SS1 2-4		18				ASH, SILT, little SAND, uniform dark gray, loose, damp.	80% recovery, spoons pushed to 10 feet
			19					30% recovery
			21					10% recovery
	SS2 6-8		17					80% recovery
	SS3 8-9		19					100% recovery
10		10,12, 15,17	18				FILL at 8.8 ft., SILT, some SAND, trace GRAVEL, compact, damp, brown.	60% recovery, spoons hammered below 10 feet
		5,6, 7,8	12				FILL, SILT, some SAND, compact, damp, reddish brown.	60% recovery
15							Total Depth 14.0 feet.	
20								
25								

Parsons Engineering Science St. Louis, Missouri						Log of Boring SB-16		
PROJECT: MSD Angelica St. Ash Pile						LOCATION: Near E-7		
PROJECT NO.: 726589.01000						SURFACE ELEVATION: 117.70 ft. MSL		
DATE STARTED: 3 November 1994						INITIAL WATER LEVEL:		
DATE FINISHED: 3 November 1994						STATIC WATER LEVEL:		
DRILLING METHOD: Hollow Stem Auger/Split-Spoon						TOTAL DEPTH: 14.0 Feet		
DRILLING COMPANY: Burlington Environmental						GEOLOGIST: Lee Gorday		
DEPTH feet	SAMPLE NO.	BLOWS/6 IN	Rad (microRem/Hr)		GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	REMARKS
			VALUES	PROFILE				
5	SS1 0-2		15				ASH, SILT, little SAND, loose, uniform dark gray, damp.	70% recovery, spoons pushed to 10 feet
	SS4 10-12		22					
	SS2 4-6		17					
			15					
	SS3 8-9		16					
10		6,5, 5,5	16				FILL at 9.2 ft., SILT and SAND, trace GRAVEL, compact, damp, brownish yellow.	80% recovery, spoons hammered below 10 feet
	3,4, 5,9	15		FILL, SILT, some SAND, compact, pods of reddish brown in brown, damp.			90% recovery	
15							Total Depth 14.0 feet.	
20								
25								

Parsons Engineering Science

St. Louis, Missouri

Log of Boring SB-17

PROJECT: MSD Angelica St. Ash Pile

LOCATION: Near E-8

PROJECT NO.: 726589.01000

SURFACE ELEVATION: 116.99 ft. MSL

DATE STARTED: 3 November 1994

INITIAL WATER LEVEL:

DATE FINISHED: 3 November 1994

STATIC WATER LEVEL:

DRILLING METHOD: Hollow Stem Auger/Split-Spoon



TOTAL DEPTH: 12.0 Feet











DRILLING COMPANY: Burlington Environmental

GEOLOGIST: Lee Gorday




DEPTH feet	SAMPLE NO.	BLOWS/6 IN	Rad (microRem/Hr)		GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	REMARKS
			VALUES	PROFILE				
			0	50				
			14				ASH, SILT, loose, uniform dark gray, damp.	70% recovery, spoons pushed to 10 feet
	SS1 2-4		20					80% recovery
5	SS2 4-6		19					80% recovery
	SS3 6-8		15					70% recovery
			18					
10		5, 4, 4, 6	18				FILL at 8.2 ft., SAND, some SILT, salt and pepper texture, compact.	100% recovery
							FILL, SILT, some SAND, slightly compact, damp, dark brown.	100% recovery, spoon hammered
							Total Depth 12.0 feet.	
15								
20								
25								

Parsons Engineering Science St. Louis, Missouri						Log of Boring SB-18		
PROJECT: MSD Angelica St. Ash Pile						LOCATION: Between D-7 and E-7		
PROJECT NO.: 726589.01000						SURFACE ELEVATION: 116.14 ft. MSL		
DATE STARTED: 2 November 1994						INITIAL WATER LEVEL:		
DATE FINISHED: 2 November 1994						STATIC WATER LEVEL:		
DRILLING METHOD: Hollow Stem Auger/Split-Spoon						TOTAL DEPTH: 14.0 Feet		
DRILLING COMPANY: Burlington Environmental						GEOLOGIST: Lee Gorday		
DEPTH feet	SAMPLE NO.	BLOWS/8 IN	Rad (microRem/Hr)		GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	REMARKS
			VALUES	PROFILE				
5	SS1 2-4		17				ASH, SILT, loose, dark gray, damp.	80% recovery, spoons pushed to 10 feet
			17					10% recovery
			21					90% recovery
			15					60% recovery
			14					30% recovery
10	SS2 4-8		18				FILL at 8.8 ft., SILT and SAND, vaguely laminated, compact, dark brown. FILL, SILT and SAND intermixed, reddish brown and pinkish gray, compact, damp.	100% recovery, spoons hammered below 10 feet
			19					30% recovery
15	SS3 8-8		19				FILL, SILT, some SAND, medium gray, moist.	
20							Total Depth 14.0 feet.	
25								

Parsons Engineering Science St. Louis, Missouri						Log of Boring SB-19		
PROJECT: MSD Angelica St. Ash Pile						LOCATION: Near D-8		
PROJECT NO.: 726589.01000						SURFACE ELEVATION: 117.63 ft. MSL		
DATE STARTED: 2 November 1994						INITIAL WATER LEVEL:		
DATE FINISHED: 2 November 1994						STATIC WATER LEVEL:		
DRILLING METHOD: Hollow Stem Auger/Split-Spoon						TOTAL DEPTH: 14.0 Feet		
DRILLING COMPANY: Burlington Environmental						GEOLOGIST: Lee Gorday		
DEPTH feet	SAMPLE NO.	BLOWS/6 IN	Rad (microRem/Hr)		GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	REMARKS
			VALUES	PROFILE				
5	SS1 0-2		21				ASH, SILT, loose, dark gray, damp.	100% recovery, spoons pushed to 10 feet
			18					90% recovery
	SS2 4-8		13					20% recovery
			SS3 6-8	16				
10		18					FILL at 8.4 ft., SAND and SILT, reddish brown and light gray, compact, damp.	
		19					FILL, SILT and SAND, yellowish brown.	40% recovery, spoons hammered below 10 feet
		18		FILL, SAND and SILT, moist, pods of pinkish gray and yellowish red.			70% recovery	
15						Total Depth 14.0 feet.		
20								
25								


Parsons Engineering Science						Log of Boring SB-20		
St. Louis, Missouri								
PROJECT: MSD Angelica St. Ash Pile						LOCATION: Near C-8		
PROJECT NO.: 726589.01000						SURFACE ELEVATION: 118.14 ft. MSL		
DATE STARTED: 2 November 1994						INITIAL WATER LEVEL:		
DATE FINISHED: 2 November 1994						STATIC WATER LEVEL:		
DRILLING METHOD: Hollow Stem Auger/Split-Spoon						TOTAL DEPTH: 16.0 Feet		
DRILLING COMPANY: Burlington Environmental						GEOLOGIST: Lee Gorday		
DEPTH feet	SAMPLE NO.	BLOWS/6 IN	Rad (microRem/Hr)		GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	REMARKS
			VALUES	PROFILE				
	SS1 0-2		15				ASH, SILT, trace GRAVEL, loose, dark gray, damp.	80% recovery, spoons pushed to 10 feet
			10					10% recovery
5	SS2 4-6		20					90% recovery
			15				Thin soil zone at 7 feet.	80% recovery
	SS3 8-9		18					30% recovery
10		7,7, 7,26	23				FILL at 9.1 ft., SILT, some SAND, compact, damp, brown.	60% recovery, spoons hammered below 10 feet
		7,22, 22,25	17				FILL, SAND and SILT, pods of strong brown and light gray, damp.	80% recovery
		7,9, 14,19	16				FILL, SILT and SAND, compact, damp, yellowish red.	80% recovery
15							FILL, SAND, some SILT, coarse stratification, reddish brown to pinkish gray.	60% recovery
							Total Depth 16.0 feet.	
20								
25								

Parsons Engineering Science St. Louis, Missouri						Log of Boring SB-21	
PROJECT: MSD Angelica St. Ash Pile						LOCATION: On road between piles, near G-7	
PROJECT NO.: 726589.01000						SURFACE ELEVATION: 107.84 ft. MSL	
DATE STARTED: 4 November 1994						INITIAL WATER LEVEL:	
DATE FINISHED: 4 November 1994						STATIC WATER LEVEL:	
DRILLING METHOD: Hollow Stem Auger/Split-Spoon						TOTAL DEPTH: 6.0 Feet	
DRILLING COMPANY: Burlington Environmental						GEOLOGIST: Lee Gorday	

DEPTH feet	SAMPLE NO.	BLOWS/6 IN	Rad (microRem/Hr)		GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	REMARKS
			VALUES	PROFILE				
			22				FILL, SILT, some SAND, reddish brown.	100% recovery. all spoons pushed
			18				FILL, SILT, some SAND, trace GRAVEL, light gray.	100% recovery.
			19				FILL, SAND interbedded with SILT, some SAND, light gray and reddish brown.	10% recovery.
5							FILL, SILT, some SAND, very uniform light brown.	
							Spoon refusal at 6.0 feet.	
10								
15								
20								
25								

Parsons Engineering Science St. Louis, Missouri						Log of Boring SB-22					
PROJECT: MSD Angelica St. Ash Pile						LOCATION: East of C-8					
PROJECT NO.: 726589.01000						SURFACE ELEVATION: 110.00 ft. MSL					
DATE STARTED: 2 November 1994						INITIAL WATER LEVEL:					
DATE FINISHED: 2 November 1994						STATIC WATER LEVEL:					
DRILLING METHOD: Hollow Stem Auger/Split-Spoon						TOTAL DEPTH: 12.0 Feet					
DRILLING COMPANY: Burlington Environmental						GEOLOGIST: Lee Gorday					
DEPTH feet	SAMPLE NO.	BLOWS/6 IN	Rad (microRem/Hr)		GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	REMARKS			
			VALUES	PROFILE							
5	SS1 2-4	3,7, 3,3	20				ASH, SILT, loose, uniform dark gray, damp.	70% recovery, spoons pushed to 10 feet			
			18						60% recovery		
			17							10% recovery	
	16			100% recovery							
	15										80% recovery
	14										
13		ASH, as above, with possible brick fragments, sand sized.									
12			FILL at 8.4 ft., SAND and GRAVEL, COAL fragments.								
11					Total Depth 12.0 feet.						
10											
9											
8											
7											
6											
5											
4											
3											
2											
1											
0											
25											
20											
15											
10											
5											
0											

Parsons Engineering Science St. Louis, Missouri						Log of Boring SB-23				
PROJECT: MSD Angelica St. Ash Pile						LOCATION: Southeast corner of pile				
PROJECT NO.: 726589.01000						SURFACE ELEVATION: 111.47 ft. MSL				
DATE STARTED: 2 November 1994						INITIAL WATER LEVEL:				
DATE FINISHED: 2 November 1994						STATIC WATER LEVEL:				
DRILLING METHOD: Hollow Stem Auger/Split-Spoon						TOTAL DEPTH: 12.0 Feet				
DRILLING COMPANY: Burlington Environmental						GEOLOGIST: Lee Gorday				
DEPTH feet	SAMPLE NO.	BLOWS/6 IN	Rad (microRem/Hr)		GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	REMARKS		
			VALUES	PROFILE						
5	SS1 2-4	3,10, 48,15	18				ASH, SILT, brownish gray, loose, damp.	30% recovery, spoons pushed to 10 feet		
			17						80% recovery	
			16							10% recovery
	11			60% recovery						
	18									
20		80% recovery, spoon hammered								
10					FILL at 9.8 ft., SAND and GRAVEL, black, COAL and brick fragments.					
							Total Depth 12.0 feet.			
15										
20										
25										

Parsons Engineering Science St. Louis, Missouri						Log of Boring SB-24		
PROJECT: MSD Angelica St. Ash Pile						LOCATION: Near D-10		
PROJECT NO.: 726589.01000						SURFACE ELEVATION: 112.59 ft. MSL		
DATE STARTED: 3 November 1994						INITIAL WATER LEVEL:		
DATE FINISHED: 3 November 1994						STATIC WATER LEVEL:		
DRILLING METHOD: Hollow Stem Auger/Split-Spoon						TOTAL DEPTH: 10.2 Feet		
DRILLING COMPANY: Burlington Environmental						GEOLOGIST: Lee Gorday		
DEPTH feet	SAMPLE NO.	BLOWS/6 IN	Rad (microRem/Hr)		GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	REMARKS
			VALUES	PROFILE				
5	SS1 2-4		18				ASH, SILT, dark gray, loose, damp.	60% recovery, spoons pushed
			14					70% recovery
			12					80% recovery
	SS2 6-8		21					100 % recovery
			16					100% recovery
10						Spoon and auger refusal at 10.2 feet.		
15								
20								
25								

Parsons Engineering Science

St. Louis, Missouri

Log of Boring SB-25

PROJECT: MSD Angelica St. Ash Pile

LOCATION: West of D-9

PROJECT NO.: 726589.01000

SURFACE ELEVATION: 110.52 ft. MSL

DATE STARTED: 3 November 1994

INITIAL WATER LEVEL:

DATE FINISHED: 3 November 1994

STATIC WATER LEVEL:

DRILLING METHOD: Hollow Stem Auger/Split-Spoon

TOTAL DEPTH: 12 Feet

DRILLING COMPANY: Burlington Environmental

GEOLOGIST: Lee Gorday

DEPTH feet	SAMPLE NO.	BLOWS/6 IN	Rad (microRem/Hr)		GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	REMARKS
			VALUES	PROFILE				
			0	50				
10							ASH, SILT, dark gray, loose, damp.	70% recovery, spoons pushed to 10 feet
	SS1 2-4		15					100% recovery
			17					80% recovery
5			18					90% recovery
	SS2 6-8		15					
10		2.2, 2.3	17				FILL, at 8.6 feet, rubble including brick and rock fragments, dark gray to black.	40% recovery, spoon hammered
							Total Depth 12 feet.	
15								
20								
25								

Parsons Engineering Science

St. Louis, Missouri

Log of Boring SB-26

PROJECT: MSD Angelica St. Ash Pile

LOCATION: Near E-9

PROJECT NO.: 726589.01000

SURFACE ELEVATION: 109.59 ft. MSL

DATE STARTED: 3 November 1994

INITIAL WATER LEVEL:

DATE FINISHED: 3 November 1994

STATIC WATER LEVEL:

DRILLING METHOD: Hollow Stem Auger/Split-Spoon

TOTAL DEPTH: 12 Feet

DRILLING COMPANY: Burlington Environmental

GEOLOGIST: Lee Gorday

DEPTH feet	SAMPLE NO.	BLOWS/6 IN	Rad (microRem/Hr)		GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	REMARKS
			VALUES	PROFILE				
			0	50				
5	SS1 2-4		20				ASH, SILT, dark gray, loose, damp.	70% recovery, spoons pushed to 8 feet
			22					75% recovery
			18					90% recovery
	SS2 8-8		17					80% recovery
		4,17, 15,16	17				FILL at 7.8 feet, rubble, rock and coal fragments, dark brown to black, glass fragments.	60% recovery, spoons hammered below 8 feet
10		2,3, 2,4	15					50% recovery
15							Total Depth 12.0 feet.	
20								
25								

Parsons Engineering Science St. Louis, Missouri						Log of Boring SB-27	
PROJECT: <i>MSD Angelica St. Ash Pile</i>						LOCATION: <i>East of E-10</i>	
PROJECT NO.: <i>726589.01000</i>						SURFACE ELEVATION: <i>111.18 ft. MSL</i>	
DATE STARTED: <i>3 November 1994</i>						INITIAL WATER LEVEL:	
DATE FINISHED: <i>3 November 1994</i>						STATIC WATER LEVEL:	
DRILLING METHOD: <i>Hollow Stem Auger/Split-Spoon</i>						TOTAL DEPTH: <i>9.0 Feet</i>	
DRILLING COMPANY: <i>Burlington Environmental</i>						GEOLOGIST: <i>Lee Gorday</i>	

DEPTH feet	SAMPLE NO.	BLOWS/6 IN	Rad (microRem/Hr)		GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	REMARKS
			VALUES	PROFILE				
			0	50				
10							ASH, SILT, uniform dark gray, loose, damp.	70% recovery, spoons pushed
	SS1 2-4		17					70% recovery
			17					100% recovery
5								
	SS2 6-8		19					100% recovery
								50% recovery
10							Spoon and auger refusal at 9.0 feet.	
15								
20								
25								

Parsons Engineering Science St. Louis, Missouri						Log of Boring SB-28		
PROJECT: MSD Angelica St. Ash Pile						LOCATION: West of F-9		
PROJECT NO.: 726589.01000						SURFACE ELEVATION: 109.17 ft. MSL		
DATE STARTED: 3 November 1994						INITIAL WATER LEVEL:		
DATE FINISHED: 3 November 1994						STATIC WATER LEVEL:		
DRILLING METHOD: Hollow Stem Auger/Split-Spoon						TOTAL DEPTH: 12 Feet		
DRILLING COMPANY: Burlington Environmental						GEOLOGIST: Lee Gorday		
DEPTH feet	SAMPLE NO.	BLOWS/6 IN	Rad (microRem/Hr)		GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	REMARKS
			VALUES	PROFILE				
5	SS1 2-4		11				ASH, SILT, trace SAND, uniform dark gray, loose, damp.	50% recovery, spoons pushed to 8 feet
			14					70% recovery
			12					60% recovery
		SS2 6-8		13			100% recovery	
10		4,12, 20,15	21				FILL at 8.0 feet, SAND and GRAVEL, rubble, coal fragments, black, some rust stains.	60% recovery, spoons hammered below 8 feet
		2,4, 2,2	18					60% recovery
15							Total Depth 12.0 feet.	
20								
25								

Parsons Engineering Science

St. Louis, Missouri

Log of Boring SB-29

PROJECT: MSD Angelica St. Ash Pile

LOCATION: Near F-10

PROJECT NO.: 726589.01000

SURFACE ELEVATION: 108.55 ft. MSL

DATE STARTED: 3 November 1994

INITIAL WATER LEVEL:

DATE FINISHED: 3 November 1994

STATIC WATER LEVEL:

DRILLING METHOD: Hollow Stem Auger/Split-Spoon

TOTAL DEPTH: 6.8 Feet

DRILLING COMPANY: Burlington Environmental

GEOLOGIST: Lee Gorday

DEPTH feet	SAMPLE NO.	BLOWS/6 IN	Rad (microRem/Hr)		GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	REMARKS
			VALUES	PROFILE				
			0	50				
			12				ASH, SILT, dark gray, loose, damp.	70% recovery, spoons pushed
	SS1 2-4		19					70% recovery
5	SS2 4-8		19					60% recovery
			11					30% recovery
10							Spoon and auger refusal at 6.8 feet.	
15								
20								
25								

Parsons Engineering Science St. Louis, Missouri						Log of Boring SB-30		
PROJECT: <i>MSD Angelica St. Ash Pile</i>						LOCATION: <i>Near G-9</i>		
PROJECT NO.: <i>726589.01000</i>						SURFACE ELEVATION: <i>110.41 ft. MSL</i>		
DATE STARTED: <i>3 November 1994</i>						INITIAL WATER LEVEL:		
DATE FINISHED: <i>3 November 1994</i>						STATIC WATER LEVEL:		
DRILLING METHOD: <i>Hollow Stem Auger/Split-Spoon</i>						TOTAL DEPTH: <i>9.1 Feet</i>		
DRILLING COMPANY: <i>Burlington Environmental</i>						GEOLOGIST: <i>Lee Gorday</i>		
DEPTH feet	SAMPLE NO.	BLOWS/6 IN	Rad (microRem/Hr)		GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	REMARKS
			VALUES	PROFILE				
5	SS1 2-4		17				ASH, SILT, uniform dark gray, loose, damp.	30% recovery, spoons pushed
			17					70% recovery
			17					90% recovery
	SS2 6-8		22					100% recovery
			20					50% recovery
10						Spoon and auger refusal at 9.1 feet.		
15								
20								
25								

Parsons Engineering Science

St. Louis, Missouri

Log of Boring SB-32

PROJECT: MSD Angelica St. Ash Pile

LOCATION: Between D-9 and C-10

PROJECT NO.: 726589.01000

SURFACE ELEVATION: 110.17 ft. MSL

DATE STARTED: 3 November 1994

INITIAL WATER LEVEL:

DATE FINISHED: 3 November 1994

STATIC WATER LEVEL:









DRILLING METHOD: Hollow Stem Auger/Split-Spoon

TOTAL DEPTH: 9.0 Feet

DRILLING COMPANY: Burlington Environmental

GEOLOGIST: Lee Gorday

DEPTH feet	SAMPLE NO.	BLOWS/6 IN	Rad (microRem/Hr)		GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	REMARKS
			VALUES	PROFILE				
			0	50				
			13				ASH, SILT, dark gray, loose, damp.	40% recovery, spoons pushed
	SS1 2-4		13					100% recovery
5			15					80% recovery
	SS2 6-8		19					70% recovery
			16					
10							Auger and spoon refusal at 9.0 feet.	
15								
20								
25								

Parsons Engineering Science St. Louis, Missouri						Log of Boring SB-33		
PROJECT: MSD Angelica St. Ash Pile						LOCATION: Between C-4 and D-4		
PROJECT NO.: 726589.01000						SURFACE ELEVATION: 117.39 ft. MSL		
DATE STARTED: 4 November 1994						INITIAL WATER LEVEL:		
DATE FINISHED: 4 November 1994						STATIC WATER LEVEL:		
DRILLING METHOD: Hollow Stem Auger/Split-Spoon						TOTAL DEPTH: 14.0 Feet		
DRILLING COMPANY: Burlington Environmental						GEOLOGIST: Lee Gorday		
DEPTH feet	SAMPLE NO.	BLOWS/6 IN	Rad (microRem/Hr)		GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	REMARKS
			VALUES	PROFILE				
5	SS1 0-2		17				ASH, SILT, uniform dark gray, loose, damp.	60% recovery, spoons pushed entire boring
			19					70% recovery
	SS2 4-6	18		100% recovery				
		21		90% recovery				
10	SS3		17				FILL at 9.9 ft., SILT, some SAND, light yellowish brown. FILL, SILT, trace SAND, light bluish gray, very uniform.	100% recovery
			19					80% recovery
15							Total Depth 14.0 feet.	5% recovery
20								
25								

APPENDIX B

LABORATORY REPORTS

FOR RADIOLOGICAL ANALYSES

REPORT.DOC

MSD 000109

Quanterra Incorporated
2800 George Washington Way
Richland, Washington 99352

509 375-3131 Telephone
509 375-5590 Fax

CERTIFICATE OF ANALYSIS

Engineering Science c/o
Quanterra St. Louis
13715 Rider Trail North
Earth City, MO 63045

November 30, 1994

Attention: Wade Price

Date of Receipt	:	November 11, 1994
Number of Samples	:	Fourteen (14)
Sample Type	:	Ash
SDG Number	:	3824
Data Deliverable	:	Summary

I. Introduction

On November 11, 1994, fourteen ash samples were received by the Quanterra Environmental Services Richland Laboratory (QTESRL) for radiochemical analysis. Upon receipt, the samples were assigned the following laboratory ID numbers to correspond with the Quanterra St. Louis (QSL) specific IDs:

<u>QTESRL ID</u>	<u>QSL ID</u>	<u>Matrix</u>	<u>Date of Receipt</u>
41129101	6720-001	Ash	11/11/94
41129102	6720-002	Ash	11/11/94
41129103	6720-003	Ash	11/11/94
41129104	6720-004	Ash	11/11/94
41129105	6720-005	Ash	11/11/94
41129106	6720-006	Ash	11/11/94
41129107	6720-007	Ash	11/11/94
41129108	6720-008	Ash	11/11/94
41129109	6720-009	Ash	11/11/94
41129110	6720-010	Ash	11/11/94
41129111	6720-011	Ash	11/11/94
41129112	6720-012	Ash	11/11/94

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SDG 3824
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<u>OTESRL ID</u>	<u>OSL ID</u>	<u>Matrix</u>	<u>Date of Receipt</u>
41129113	6720-013	Ash	11/11/94
41129114	6720-014	Ash	11/11/94

II. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information, analytical results and the appropriate associated statistical errors.

The requested analyses were:

Gas Proportional Counting

Gross Alpha by method ITAS-RD-3214

Gross Beta by method ITAS-RD-3214

Total Uranium

Total Uranium by method ITAS-RD-4200

III. Quality Control

The analytical results for each analysis performed under SDG 3824 include a minimum of one Laboratory Control Sample (LCS) and one method (reagent) blank. Any exceptions have been noted in the "Comments" section.

Quality control sample results for Gross Alpha and Gross Beta are reported as pCi/sample. Quality control sample results for Total Uranium are reported in the same units as the samples.

IV. Comments

These samples were not screened, as per advice from St. Louis. The report also lists the matrix as "soil". However, they were "ash" samples, as indicated by the COC.

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Gas Proportional Counting

Gross Alpha by method ITAS-RD-3214

The LCS and batch blank results are within contractual limits. Activity for all samples exceed the achieved MDA's (4.14 to 5.97 pCi/gram), which exceed the RDL (3 pCi/gram).

Gross Beta by method ITAS-RD-3214

The LCS, batch blank, and sample results are within contractual limits.

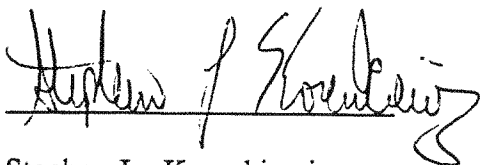
Total Uranium

Total Uranium by method ITAS-RD-4200

The lifetime reading of the batch blank after standard addition was less than the desired 150.00 μg . In order to get an accurate result on the KPA, the lifetime has to be ≥ 150.00 μg . The result read with a 132.548 μg lifetime is 2.634 $\mu\text{g}/\text{kg}$, which also increases the MDA. This batch blank result could also be elevated due to contamination from very high activity in all of the samples in the batch.. The data is accepted, however, since all samples have activities (6,688.748 $\mu\text{g}/\text{kg}$ - 17,360.830 $\mu\text{g}/\text{kg}$) greater than 5 times the possible contamination level of the blank and the LCS is within contractual requirements.

I certify that this Certificate of Analysis is complete.. Release of the data contained in this hard copy data package has been authorized by the Project Manager or a designee, as verified by the following signature.

Reviewed and approved:



Stephen L. Korenkiewicz
Project Manager

Quanterra Incorporated
2800 George Washington Way
Richland, Washington 99352

509 375-3131 Telephone
509 375-5590 Fax

Analytical Data Package Prepared For

Engineering Science

Radiochemical Analysis By

Quanterra Environmental Services
Richland Laboratory

Sample Delivery Group Number: 3824

CLIENT ID NUMBER

QUANTERRA ID NUMBER

6720-001	41129101
6720-002	41129102
6720-003	41129103
6720-004	41129104
6720-005	41129105
6720-006	41129106
6720-007	41129107
6720-008	41129108
6720-009	41129109
6720-010	41129110
6720-011	41129111
6720-012	41129112
6720-013	41129113
6720-014	41129114

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND SDG: 3824
LAB SAMPLE ID: 41129101 MATRIX: SOIL
CLIENT ID: 6720-001 DATE RECEIVED: 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	5.00E+01	9.7E+00	1.2E+01	4.14E+00	pCi/g	100.00%	RD3214
BETA	5.04E+01	3.4E+00	4.8E+00	2.60E+00	pCi/g	100.00%	RD3214
U-LASER	1.58E+04	2.4E+03	2.4E+03	1.84E+00	UG/K	100.00%	RD4200

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND SDG: 3824
LAB SAMPLE ID: 41129102 MATRIX: SOIL
CLIENT ID: 6720-002 DATE RECEIVED: 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	4.75E+01	9.1E+00	1.3E+01	3.66E+00	pCi/g	100.00%	RD3214
BETA	4.65E+01	3.3E+00	4.5E+00	2.57E+00	pCi/g	100.00%	RD3214
U-LASER	1.20E+04	1.8E+03	1.8E+03	1.84E+00	UG/K	100.00%	RD4200

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND SDG: 3824
LAB SAMPLE ID: 41129103 MATRIX: SOIL
CLIENT ID: 6720-003 DATE RECEIVED: 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	4.58E+01	9.2E+00	1.1E+01	4.79E+00	pCi/g	100.00%	RD3214
BETA	4.61E+01	3.3E+00	4.6E+00	2.54E+00	pCi/g	100.00%	RD3214
U-LASER	8.30E+03	1.3E+03	1.3E+03	1.84E+00	UG/K	100.00%	RD4200

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND SDG: 3824
LAB SAMPLE ID: 41129104 MATRIX: SOIL
CLIENT ID: 6720-004 DATE RECEIVED: 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	4.99E+01	9.7E+00	1.3E+01	4.59E+00	pCi/g	100.00%	RD3214
BETA	4.83E+01	3.4E+00	4.6E+00	2.58E+00	pCi/g	100.00%	RD3214
U-LASER	9.03E+03	1.4E+03	1.4E+03	1.84E+00	UG/K	100.00%	RD4200

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND SDG: 3824
LAB SAMPLE ID: 41129105 MATRIX: SOIL
CLIENT ID: 6720-005 DATE RECEIVED: 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	4.36E+01	9.3E+00	1.2E+01	5.37E+00	pCi/g	100.00%	RD3214
BETA	4.18E+01	3.2E+00	4.2E+00	2.48E+00	pCi/g	100.00%	RD3214
U-LASER	1.50E+04	2.3E+03	2.3E+03	1.84E+00	UG/K	100.00%	RD4200

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND SDG: 3824
LAB SAMPLE ID: 41129106 MATRIX: SOIL
CLIENT ID: 6720-006 DATE RECEIVED: 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	5.70E+01	1.0E+01	1.3E+01	4.14E+00	pCi/g	100.00%	RD3214
BETA	4.58E+01	3.3E+00	4.5E+00	2.77E+00	pCi/g	100.00%	RD3214
U-LASER	6.69E+03	1.0E+03	1.0E+03	1.84E+00	UG/K	100.00%	RD4200

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND SDG: 3824
LAB SAMPLE ID: 41129107 MATRIX: SOIL
CLIENT ID: 6720-007 DATE RECEIVED: 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	5.55E+01	9.9E+00	1.4E+01	4.59E+00	pCi/g	100.00%	RD3214
BETA	4.62E+01	3.3E+00	4.5E+00	2.60E+00	pCi/g	100.00%	RD3214
U-LASER	1.74E+04	2.6E+03	2.6E+03	1.84E+00	UG/K	100.00%	RD4200

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND SDG: 3824
LAB SAMPLE ID: 41129108 MATRIX: SOIL
CLIENT ID: 6720-008 DATE RECEIVED: 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	5.22E+01	9.8E+00	1.2E+01	5.01E+00	pCi/g	100.00%	RD3214
BETA	3.96E+01	3.1E+00	4.0E+00	2.57E+00	pCi/g	100.00%	RD3214
U-LASER	1.31E+04	2.0E+03	2.0E+03	1.84E+00	UG/K	100.00%	RD4200

Number of Results: 3

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND SDG: 3824
LAB SAMPLE ID: 41129109 MATRIX: SOIL
CLIENT ID: 6720-009 DATE RECEIVED: 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	6.36E+01	1.1E+01	1.5E+01	5.09E+00	pCi/g	100.00%	RD3214
BETA	4.65E+01	3.3E+00	4.6E+00	2.54E+00	pCi/g	100.00%	RD3214

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND SDG: 3824
LAB SAMPLE ID: 41129110 MATRIX: SOIL
CLIENT ID: 6720-010 DATE RECEIVED: 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	8.56E+01	1.3E+01	1.9E+01	4.42E+00	pCi/g	100.00%	RD3214
BETA	5.01E+01	3.5E+00	4.7E+00	2.57E+00	pCi/g	100.00%	RD3214

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND SDG: 3824
LAB SAMPLE ID: 41129111 MATRIX: SOIL
CLIENT ID: 6720-011 DATE RECEIVED: 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	4.91E+01	9.8E+00	1.2E+01	5.97E+00	pCi/g	100.00%	RD3214
BETA	3.92E+01	3.1E+00	4.1E+00	2.48E+00	pCi/g	100.00%	RD3214

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND SDG: 3824
LAB SAMPLE ID: 41129112 MATRIX: SOIL
CLIENT ID: 6720-012 DATE RECEIVED: 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	5.94E+01	1.0E+01	1.5E+01	4.60E+00	pCi/g	100.00%	RD3214
BETA	4.74E+01	3.4E+00	4.6E+00	2.77E+00	pCi/g	100.00%	RD3214

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND SDG: 3824
LAB SAMPLE ID: 41129113 MATRIX: SOIL
CLIENT ID: 6720-013 DATE RECEIVED: 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	7.50E+01	1.2E+01	1.6E+01	5.02E+00	pCi/g	100.00%	RD3214
BETA	4.77E+01	3.4E+00	4.6E+00	2.60E+00	pCi/g	100.00%	RD3214

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND SDG: 3824
LAB SAMPLE ID: 41129114 MATRIX: SOIL
CLIENT ID: 6720-014 DATE RECEIVED: 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	4.57E+01	9.4E+00	1.2E+01	5.10E+00	pCi/g	100.00%	RD3214
BETA	3.74E+01	3.0E+00	3.9E+00	2.57E+00	pCi/g	100.00%	RD3214

Number of Results:

BLANK RESULTS

LAB NAME: ITAS-RICHLAND SDG: 3824
LAB SAMPLE ID: L112911B MATRIX: SOIL

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	3.09E-02	4.5E-02	4.5E-02	8.65E-02	pCi/sa	100.00%	RD3214
BETA	2.80E-01	2.6E-01	2.6E-01	5.23E-01	pCi/sa	100.00%	RD3214
U-LASER	2.63E+00	4.0E-01	4.0E-01	1.84E+00	UG/K	100.00%	RD4200

Number of Results:

LABORATORY CONTROL SAMPLE

LAB NAME: ITAS-RICHLAND SDG: 3824
LAB SAMPLE ID: L112911S MATRIX: SOIL

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	EXPECTED	RECOVER
ALPHA	7.45E+00	5.5E-01	2.0E+00	1.13E-01	pCi/sa	100.00%	8.14E+00	91.52%
BETA	7.32E+00	6.2E-01	8.0E-01	5.75E-01	pCi/sa	100.00%	8.14E+00	89.93%
U-LASER	8.21E+02	1.2E+02	1.2E+02	1.84E+00	UG/K	100.00%	9.05E+02	90.69%

Number of Results:

Quanterra Incorporated
2800 George Washington Way
Richland, Washington 99352

509 375-3131 Telephone
509 375-5590 Fax

CERTIFICATE OF ANALYSIS

Engineering Science c/o
Quanterra St. Louis
13715 Rider Trail North
Earth City, MO 63045

December 3, 1994

Attention: Wade Price

Date of Receipt	:	November 11, 1994
Number of Samples	:	Thirteen (13)
Sample Type	:	Ash
SDG Number	:	3824A
Data Deliverable	:	Summary

I. Introduction

On November 11, 1994, thirteen ash samples were received by the Quanterra Environmental Services Richland Laboratory (QTESRL) for radiochemical analysis. Upon receipt, the samples were assigned the following laboratory ID numbers to correspond with the Quanterra St. Louis (QSL) specific IDs:

<u>QTESRL ID</u>	<u>QSL ID</u>	<u>Matrix</u>	<u>Date of Receipt</u>
41129201	6765-001	Ash	11/11/94
41129202	6765-002	Ash	11/11/94
41129203	6765-003	Ash	11/11/94
41129204	6765-004	Ash	11/11/94
41129205	6765-005	Ash	11/11/94
41129206	6765-006	Ash	11/11/94
41129207	6765-007	Ash	11/11/94
41129208	6765-008	Ash	11/11/94
41129209	6765-009	Ash	11/11/94
41129210	6765-010	Ash	11/11/94
41129211	6765-011	Ash	11/11/94
41129212	6765-012	Ash	11/11/94
41129213	6765-013	Ash	11/11/94

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II. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information, analytical results and the appropriate associated statistical errors.

The requested analyses were:

- Gas Proportional Counting**
- Gross Alpha by method ITAS-RD-3214
- Gross Beta by method ITAS-RD-3214
- Total Uranium**
- Total Uranium by method ITAS-RD-4200

III. Quality Control

The analytical results for each analysis performed under SDG 3824A include a minimum of one Laboratory Control Sample (LCS) and one method (reagent) blank. Any exceptions have been noted in the "Comments" section.

Quality control sample results for Gross Alpha and Gross Beta are reported as pCi/sample. Quality control sample results for Total Uranium are reported in the same units as the samples.

IV. Comments

These samples were not screened, as per advice from St. Louis. The report also lists the matrix as "soil". However, they were "ash" samples, as indicated by the COC.

Gas Proportional Counting

Gross Alpha by method ITAS-RD-3214

The LCS and batch blank results are within contractual limits. Activity for all samples exceed the achieved MDA's (3.95 to 5.34 pCi/gram), which exceed the RDL (3 pCi/gram).

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Gross Beta by method ITAS-RD-3214

The LCS, batch blank, and sample results are within contractual limits.

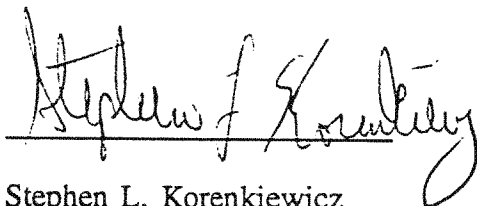
Total Uranium

Total Uranium by method ITAS-RD-4200

The blank and sample 6765-004 did not give good initial readings on the KPA. 5 ml of the prepped sample was dried, wet ashed and muffled. The reanalysis data of both samples is accepted and reported. All other aspects of the original data are within contractual requirements.

I certify that this Certificate of Analysis is complete.. Release of the data contained in this hard copy data package has been authorized by the Project Manager or a designee, as verified by the following signature.

Reviewed and approved:



Stephen L. Korenkiewicz
Project Manager

Quanterra Incorporated
2800 George Washington Way
Richland, Washington 99352

509 375-3131 Telephone
509 375-5590 Fax

Analytical Data Package Prepared For

Engineering Science

Radiochemical Analysis By

Quanterra Environmental Services
Richland Laboratory

Sample Delivery Group Number: 3824A

CLIENT ID NUMBER

QUANTERRA ID NUMBER

6765-001	41129201
6765-002	41129202
6765-003	41129203
6765-004	41129204
6765-005	41129205
6765-006	41129206
6765-007	41129207
6765-008	41129208
6765-009	41129209
6765-010	41129210
6765-011	41129211
6765-012	41129212
6765-013	41129213

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND SDG: 3824A
LAB SAMPLE ID: 41129201 MATRIX: SOIL
CLIENT ID: 6765-001 DATE RECEIVED: 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	5.20E+01	9.5E+00	1.3E+01	3.96E+00	pCi/g	100.00%	RD3214
BETA	4.70E+01	3.4E+00	4.5E+00	2.64E+00	pCi/g	100.00%	RD3214

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND SDG: 3824A
LAB SAMPLE ID: 41129202 MATRIX: SOIL
CLIENT ID: 6765-002 DATE RECEIVED: 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	6.65E+01	1.1E+01	1.4E+01	5.13E+00	pCi/g	100.00%	RD3214
BETA	4.61E+01	3.3E+00	4.5E+00	2.47E+00	pCi/g	100.00%	RD3214
U-LASER	1.97E+04	3.0E+03	3.0E+03	N/A	UG/K	100.00%	RD4200

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND SDG: 3824A
LAB SAMPLE ID: 41129203 MATRIX: SOIL
CLIENT ID: 6765-003 DATE RECEIVED: 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	4.13E+01	8.9E+00	1.1E+01	5.33E+00	pCi/g	100.00%	RD3214
BETA	2.50E+01	2.6E+00	3.1E+00	2.78E+00	pCi/g	100.00%	RD3214
U-LASER	1.65E+04	2.5E+03	2.5E+03	N/A	UG/K	100.00%	RD4200

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND **SDG:** 3824A
LAB SAMPLE ID: 41129204 **MATRIX:** SOIL
CLIENT ID: 6765-004 **DATE RECEIVED:** 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	5.67E+01	1.1E+01	1.4E+01	5.13E+00	pCi/g	100.00%	RD3214
BETA	4.06E+01	3.1E+00	4.1E+00	2.60E+00	pCi/g	100.00%	RD3214
U-LASER	1.58E+05	2.4E+03	2.4E+03	N/A	UG/K	100.00%	RD4200

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND SDG: 3824A
LAB SAMPLE ID: 41129205 MATRIX: SOIL
CLIENT ID: 6765-005 DATE RECEIVED: 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	6.18E+01	1.1E+01	1.4E+01	4.15E+00	pCi/g	100.00%	RD3214
BETA	3.78E+01	3.0E+00	3.9E+00	2.57E+00	pCi/g	100.00%	RD3214
U-LASER	1.53E+04	2.3E+03	2.3E+03	N/A	UG/K	100.00%	RD4200

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND SDG: 3824A
LAB SAMPLE ID: 41129206 MATRIX: SOIL
CLIENT ID: 6765-006 DATE RECEIVED: 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	4.86E+01	9.2E+00	1.3E+01	3.96E+00	pCi/g	100.00%	RD3214
BETA	4.41E+01	3.2E+00	4.4E+00	2.54E+00	pCi/g	100.00%	RD3214
U-LASER	1.84E+04	2.8E+03	2.8E+03	N/A	UG/K	100.00%	RD4200

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND **SDG:** 3824A
LAB SAMPLE ID: 41129207 **MATRIX:** SOIL
CLIENT ID: 6765-007 **DATE RECEIVED:** 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	7.17E+01	1.1E+01	1.5E+01	5.12E+00	pCi/g	100.00%	RD3214
BETA	4.71E+01	3.4E+00	4.5E+00	2.57E+00	pCi/g	100.00%	RD3214
U-LASER	2.01E+04	3.0E+03	3.0E+03	N/A	UG/K	100.00%	RD4200

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND SDG: 3824A
LAB SAMPLE ID: 41129208 MATRIX: SOIL
CLIENT ID: 6765-008 DATE RECEIVED: 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	6.03E+01	1.1E+01	1.5E+01	5.34E+00	pCi/g	100.00%	RD3214
BETA	4.31E+01	3.2E+00	4.3E+00	2.48E+00	pCi/g	100.00%	RD3214
U-LASER	1.65E+04	2.5E+03	2.5E+03	N/A	UG/K	100.00%	RD4200

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND SDG: 3824A
LAB SAMPLE ID: 41129209 MATRIX: SOIL
CLIENT ID: 6765-009 DATE RECEIVED: 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	6.00E+01	1.1E+01	1.5E+01	5.13E+00	pCi/g	100.00%	RD3214
BETA	4.28E+01	3.2E+00	4.3E+00	2.78E+00	pCi/g	100.00%	RD3214

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND **SDG:** 3824A
LAB SAMPLE ID: 41129210 **MATRIX:** SOIL
CLIENT ID: 6765-010 **DATE RECEIVED:** 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	6.94E+01	1.1E+01	1.5E+01	4.13E+00	pCi/g	100.00%	RD3214
BETA	3.87E+01	3.1E+00	4.0E+00	2.61E+00	pCi/g	100.00%	RD3214
U-LASER	1.61E+04	2.4E+03	2.4E+03	N/A	UG/K	100.00%	RD4200

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND SDG: 3824A
LAB SAMPLE ID: 41129211 MATRIX: SOIL
CLIENT ID: 6765-011 DATE RECEIVED: 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	1.07E+02	1.4E+01	2.4E+01	3.96E+00	pCi/g	100.00%	RD3214
BETA	6.14E+01	3.8E+00	5.4E+00	2.57E+00	pCi/g	100.00%	RD3214

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND SDG: 3824A
LAB SAMPLE ID: 41129212 MATRIX: SOIL
CLIENT ID: 6765-012 DATE RECEIVED: 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	5.35E+01	9.9E+00	1.2E+01	5.12E+00	pCi/g	100.00%	RD3214
BETA	4.60E+01	3.3E+00	4.6E+00	2.54E+00	pCi/g	100.00%	RD3214
U-LASER	1.96E+04	3.0E+03	3.0E+03	N/A	UG/K	100.00%	RD4200

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND SDG: 3824A
LAB SAMPLE ID: 41129213 MATRIX: SOIL
CLIENT ID: 6765-013 DATE RECEIVED: 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	6.54E+01	1.1E+01	1.6E+01	5.33E+00	pCi/g	100.00%	RD3214
BETA	3.82E+01	3.1E+00	3.9E+00	2.58E+00	pCi/g	100.00%	RD3214
U-LASER	1.41E+04	2.1E+03	2.1E+03	N/A	UG/K	100.00%	RD4200

Number of Results:

BLANK RESULTS

LAB NAME: ITAS-RICHLAND SDG: 3824A
LAB SAMPLE ID: L112921B MATRIX: SOIL

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	1.00E-02	3.7E-02	3.7E-02	9.32E-02	pCi/sa	100.00%	RD3214
BETA	2.57E-01	2.7E-01	2.7E-01	5.53E-01	pCi/sa	100.00%	RD3214
U-LASER	6.95E-01	1.0E-01	1.0E-01	N/A	UG/K	100.00%	RD4200

Number of Results:

LABORATORY CONTROL SAMPLE

LAB NAME: ITAS-RICHLAND SDG: 3824A
LAB SAMPLE ID: L112921S MATRIX: SOIL

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	EXPECTED	RECOVERY
ALPHA	6.34E+00	5.0E-01	1.6E+00	1.26E-01	pCi/sa	100.00%	8.14E+00	77.89%
BETA	7.67E+00	6.2E-01	8.4E-01	5.28E-01	pCi/sa	100.00%	8.14E+00	94.23%
U-LASER	8.99E-01	1.4E-01	1.4E-01	N/A	UG/S	100.00%	9.03E-01	99.56%

Number of Results:

Quanterra Incorporated
2800 George Washington Way
Richland, Washington 99352

509 375-3131 Telephone
509 375-5590 Fax

CERTIFICATE OF ANALYSIS

Engineering Science c/o
Quanterra St. Louis
13715 Rider Trail North
Earth City, MO 63045

December 3, 1994

Attention: Wade Price

Date of Receipt	:	November 11, 1994
Number of Samples	:	Thirteen (13)
Sample Type	:	Ash
SDG Number	:	3824B
Data Deliverable	:	Summary

I. Introduction

On November 11, 1994, thirteen ash samples were received by the Quanterra Environmental Services Richland Laboratory (QTESRL) for radiochemical analysis. Upon receipt, the samples were assigned the following laboratory ID numbers to correspond with the Quanterra St. Louis (QSL) specific IDs:

<u>QTESRL ID</u>	<u>QSL ID</u>	<u>Matrix</u>	<u>Date of Receipt</u>
41129301	6765-014	Ash	11/11/94
41129302	6765-015	Ash	11/11/94
41129303	6765-016	Ash	11/11/94
41129304	6765-017	Ash	11/11/94
41129305	6765-018	Ash	11/11/94
41129306	6765-019	Ash	11/11/94
41129307	6765-020	Ash	11/11/94
41129308	6765-021	Ash	11/11/94
41129309	6765-022	Ash	11/11/94
41129310	6765-023	Ash	11/11/94
41129311	6765-024	Ash	11/11/94
41129312	6765-025	Ash	11/11/94
41129313	6765-026	Ash	11/11/94

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II. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information, analytical results and the appropriate associated statistical errors.

The requested analyses were:

Gas Proportional Counting

Gross Alpha by method ITAS-RD-3214

Gross Beta by method ITAS-RD-3214

Total Uranium

Total Uranium by method ITAS-RD-4200

III. Quality Control

The analytical results for each analysis performed under SDG 3824B include a minimum of one Laboratory Control Sample (LCS) and one method (reagent) blank. Any exceptions have been noted in the "Comments" section.

Quality control sample results for Gross Alpha and Gross Beta are reported as pCi/sample. Quality control sample results for Total Uranium are reported in the same units as the samples.

IV. Comments

These samples were not screened, as per advice from St. Louis. The report also lists the matrix as "soil". However, they were "ash" samples, as indicated by the COC.

Gas Proportional Counting

Gross Alpha by method ITAS-RD-3214

The LCS was recounted due to poor recovery on the initial count. The recount LCS and original batch blank results are within contractual limits. Activity for all samples exceed the achieved MDA's (4.09 to 5.56 pCi/gram), which exceed the RDL (3 pCi/gram).

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Gross Beta by method ITAS-RD-3214

The LCS, batch blank, and sample results are within contractual limits.

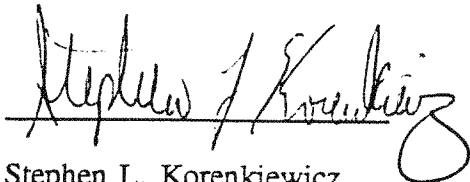
Total Uranium

Total Uranium by method ITAS-RD-4200

The batch, including QC, was giving poor histograms on the KPA. 5 ml of each sample was dried, wet ashed, and muffled, then brought back into solution for reanalysis. The reanalysis data is accepted and reported. The blank result and achieved MDA are above the RDL. The data is accepted, however, since all samples have activities (13,035.544 $\mu\text{g/kg}$ - 23,151.367 $\mu\text{g/kg}$) greater than 5 times the possible contamination level of the blank and the LCS is within contractual requirements.

I certify that this Certificate of Analysis is complete.. Release of the data contained in this hard copy data package has been authorized by the Project Manager or a designee, as verified by the following signature.

Reviewed and approved:



Stephen L. Korenkiewicz
Project Manager

Analytical Data Package Prepared For

Engineering Science

Radiochemical Analysis By

Quanterra Environmental Services
Richland Laboratory

Sample Delivery Group Number: 3824B

CLIENT ID NUMBER

QUANTERRA ID NUMBER

6765-014	41129301
6765-015	41129302
6765-016	41129303
6765-017	41129304
6765-018	41129305
6765-019	41129306
6765-020	41129307
6765-021	41129308
6765-022	41129309
6765-023	41129310
6765-024	41129311
6765-025	41129312
6765-026	41129313

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND **SDG:** 3824B
LAB SAMPLE ID: 41129301 **MATRIX:** SOIL
CLIENT ID: 6765-014 **DATE RECEIVED:** 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	3.97E+01	8.8E+00	1.1E+01	5.55E+00	pCi/g	100.00%	RD3214
BETA	4.41E+01	3.2E+00	4.4E+00	2.44E+00	pCi/g	100.00%	RD3214
U-LASER	2.00E+04	3.0E+03	3.0E+03	N/A	UGM/	100.00%	RD4200

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND SDG: 3824B
LAB SAMPLE ID: 41129302 MATRIX: SOIL
CLIENT ID: 6765-015 DATE RECEIVED: 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	5.50E+01	1.0E+01	1.4E+01	5.37E+00	pCi/g	100.00%	RD3214
BETA	4.14E+01	3.2E+00	4.2E+00	2.79E+00	pCi/g	100.00%	RD3214
U-LASER	1.56E+04	2.3E+03	2.3E+03	N/A	UGM/	100.00%	RD4200

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND SDG: 3824B
LAB SAMPLE ID: 41129303 MATRIX: SOIL
CLIENT ID: 6765-016 DATE RECEIVED: 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	4.80E+01	9.6E+00	1.2E+01	5.23E+00	pCi/g	100.00%	RD3214
BETA	4.35E+01	3.2E+00	4.3E+00	2.59E+00	pCi/g	100.00%	RD3214
U-LASER	1.30E+04	2.0E+03	2.0E+03	N/A	UGM/	100.00%	RD4200

Number of Results:

SAMPLE RESULTS

LAB NAME:	ITAS-RICHLAND	SDG:	3824B
LAB SAMPLE ID:	41129304	MATRIX:	SOIL
CLIENT ID:	6765-017	DATE RECEIVED:	11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	4.21E+01	8.6E+00	1.1E+01	4.09E+00	pCi/g	100.00%	RD3214
BETA	4.75E+01	3.4E+00	4.5E+00	2.62E+00	pCi/g	100.00%	RD3214

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND **SDG:** 3824B
LAB SAMPLE ID: 41129305 **MATRIX:** SOIL
CLIENT ID: 6765-018 **DATE RECEIVED:** 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	4.66E+01	9.3E+00	1.1E+01	5.22E+00	pCi/g	100.00%	RD3214
BETA	4.27E+01	3.2E+00	4.3E+00	2.56E+00	pCi/g	100.00%	RD3214
U-LASER	1.49E+04	2.2E+03	2.2E+03	N/A	UGM/	100.00%	RD4200

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND SDG: 3824B
LAB SAMPLE ID: 41129306 MATRIX: SOIL
CLIENT ID: 6765-019 DATE RECEIVED: 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	4.38E+01	9.2E+00	1.2E+01	5.54E+00	pCi/g	100.00%	RD3214
BETA	4.93E+01	3.4E+00	4.7E+00	2.55E+00	pCi/g	100.00%	RD3214

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND SDG: 3824B
LAB SAMPLE ID: 41129307 MATRIX: SOIL
CLIENT ID: 6765-020 DATE RECEIVED: 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	6.73E+01	1.2E+01	1.6E+01	5.36E+00	pCi/g	100.00%	RD3214
BETA	4.74E+01	3.3E+00	4.6E+00	2.44E+00	pCi/g	100.00%	RD3214
U-LASER	2.04E+04	3.1E+03	3.1E+03	N/A	UGM/	100.00%	RD4200

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND SDG: 3824B
LAB SAMPLE ID: 41129308 MATRIX: SOIL
CLIENT ID: 6765-021 DATE RECEIVED: 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	4.56E+01	9.4E+00	1.2E+01	5.22E+00	pCi/g	100.00%	RD3214
BETA	4.10E+01	3.2E+00	4.1E+00	2.79E+00	pCi/g	100.00%	RD3214

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND SDG: 3824B
LAB SAMPLE ID: 41129309 MATRIX: SOIL
CLIENT ID: 6765-022 DATE RECEIVED: 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	4.93E+01	9.3E+00	1.3E+01	4.09E+00	pCi/g	100.00%	RD3214
BETA	4.29E+01	3.2E+00	4.3E+00	2.60E+00	pCi/g	100.00%	RD3214
U-LASER	1.92E+04	2.9E+03	2.9E+03	N/A	UGM/	100.00%	RD4200

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND SDG: 3824B
LAB SAMPLE ID: 41129310 MATRIX: / SOIL
CLIENT ID: 6765-023 DATE RECEIVED: 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	4.89E+01	9.5E+00	1.2E+01	5.22E+00	pCi/g	100.00%	RD3214
BETA	3.58E+01	3.0E+00	3.8E+00	2.61E+00	pCi/g	100.00%	RD3214
U-LASER	1.48E+04	2.2E+03	2.2E+03	N/A	UGM/	100.00%	RD4200

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND SDG: 3824B
LAB SAMPLE ID: 41129311 MATRIX: SOIL
CLIENT ID: 6765-024 DATE RECEIVED: 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	3.89E+01	8.7E+00	1.1E+01	5.56E+00	pCi/g	100.00%	RD3214
BETA	4.13E+01	3.2E+00	4.2E+00	2.55E+00	pCi/g	100.00%	RD3214
U-LASER	1.96E+04	2.9E+03	2.9E+03	N/A	UGM/	100.00%	RD4200

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND SDG: 3824B
LAB SAMPLE ID: 41129312 MATRIX: SOIL
CLIENT ID: 6765-025 DATE RECEIVED: 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	4.55E+01	9.5E+00	1.2E+01	5.37E+00	pCi/g	100.00%	RD3214
BETA	4.37E+01	3.3E+00	4.3E+00	2.55E+00	pCi/g	100.00%	RD3214

Number of Results:

SAMPLE RESULTS

LAB NAME:	ITAS-RICHLAND	SDG:	3824B
LAB SAMPLE ID:	41129313	MATRIX:	SOIL
CLIENT ID:	6765-026	DATE RECEIVED:	11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	6.47E+01	1.1E+01	1.5E+01	5.23E+00	pCi/g	100.00%	RD3214
BETA	4.41E+01	3.2E+00	4.4E+00	2.45E+00	pCi/g	100.00%	RD3214
U-LASER	2.32E+04	3.5E+03	3.5E+03	N/A	UGM/	100.00%	RD4200

Number of Results:

BLANK RESULTS

LAB NAME: ITAS-RICHLAND **SDG:** 3824B
LAB SAMPLE ID: L112931B **MATRIX:** SOIL

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	7.16E-03	3.3E-02	3.3E-02	8.59E-02	pCi/sa	100.00%	RD3214
BETA	2.08E-01	2.5E-01	2.5E-01	5.21E-01	pCi/sa	100.00%	RD3214
U-LASER	4.49E+00	6.7E-01	6.7E-01	N/A	UGM/	100.00%	RD4200

Number of Results:

LABORATORY CONTROL SAMPLE

LAB NAME: ITAS-RICHLAND **SDG:** 3824B
LAB SAMPLE ID: L112931S **MATRIX:** SOIL

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	EXPECTED	RECOVERY
ALPHA	6.91E+00	5.1E-01	1.5E+00	1.09E-01	pCi/sa	100.00%	8.14E+00	84.89%
BETA	8.31E+00	6.5E-01	8.7E-01	5.32E-01	pCi/sa	100.00%	8.14E+00	102.09%
U-LASER	5.99E-01	1.0E-01	1.0E-01	N/A	ug/sa	100.00%	8.96E-01	66.85%

Number of Results:

Quanterra Incorporated
2800 George Washington Way
Richland, Washington 99352

509 375-3131 Telephone
509 375-5590 Fax

CERTIFICATE OF ANALYSIS

Engineering Science c/o
Quanterra St. Louis
13715 Rider Trail North
Earth City, MO 63045

December 3, 1994

Attention: Wade Price

Date of Receipt	:	November 11, 1994
Number of Samples	:	Thirteen (13)
Sample Type	:	Ash
SDG Number	:	3824C
Data Deliverable	:	Summary

I. Introduction

On November 11, 1994, thirteen ash samples were received by the Quanterra Environmental Services Richland Laboratory (QTESRL) for radiochemical analysis. Upon receipt, the samples were assigned the following laboratory ID numbers to correspond with the Quanterra St. Louis (QSL) specific IDs:

<u>QTESRL ID</u>	<u>QSL ID</u>	<u>Matrix</u>	<u>Date of Receipt</u>
41129401	6765-027	Ash	11/11/94
41129402	6765-028	Ash	11/11/94
41129403	6765-029	Ash	11/11/94
41129404	6765-030	Ash	11/11/94
41129405	6765-031	Ash	11/11/94
41129406	6765-032	Ash	11/11/94
41129407	6765-033	Ash	11/11/94
41129408	6765-034	Ash	11/11/94
41129409	6765-035	Ash	11/11/94
41129410	6765-036	Ash	11/11/94
41129411	6765-037	Ash	11/11/94
41129412	6765-038	Ash	11/11/94
41129413	6765-039	Ash	11/11/94

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II. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information, analytical results and the appropriate associated statistical errors.

The requested analyses were:

Gas Proportional Counting

Gross Alpha by method ITAS-RD-3214

Gross Beta by method ITAS-RD-3214

Total Uranium

Total Uranium by method ITAS-RD-4200

III. Quality Control

The analytical results for each analysis performed under SDG 3824C include a minimum of one Laboratory Control Sample (LCS) and one method (reagent) blank. Any exceptions have been noted in the "Comments" section.

Quality control sample results for Gross Alpha and Gross Beta are reported as pCi/sample. Quality control sample results for Total Uranium are reported in the same units as the samples.

IV. Comments

These samples were not screened, as per advice from St. Louis. The report also lists the matrix as "soil". However, they were "ash" samples, as indicated by the COC.

Gas Proportional Counting

Gross Alpha by method ITAS-RD-3214

The LCS was recounted due to poor recovery on the initial count. The recount LCS and original batch blank results are within contractual limits. Activity for all samples exceed the achieved MDA's (3.82 to 5.24 pCi/gram), which exceed the RDL (3 pCi/gram).

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Gross Beta by method ITAS-RD-3214

The LCS, batch blank, and sample results are within contractual limits.

Total Uranium

Total Uranium by method ITAS-RD-4200

The batch blank was giving poor readings on the KPA. 5 ml was dried, wet ashed and muffled, then brought back into solution for reanalysis. The reanalysis data is accepted and reported. The blank result and achieved MDA are above the RDL. The data is accepted, however, since all samples have activities (10,193.482 $\mu\text{g/kg}$ - 16,744.977 $\mu\text{g/kg}$) greater than 5 times the possible contamination level of the blank and the LCS is within contractual requirements.

I certify that this Certificate of Analysis is complete.. Release of the data contained in this hard copy data package has been authorized by the Project Manager or a designee, as verified by the following signature.

Reviewed and approved:



Stephen L. Korenkiewicz
Project Manager

Analytical Data Package Prepared For

Engineering Science

Radiochemical Analysis By

Quanterra Environmental Services
Richland Laboratory

Sample Delivery Group Number: 3824C

CLIENT ID NUMBER

QUANTERRA ID NUMBER

6765-027	41129401
6765-028	41129402
6765-029	41129403
6765-030	41129404
6765-031	41129405
6765-032	41129406
6765-033	41129407
6765-034	41129408
6765-035	41129409
6765-036	41129410
6765-037	41129411
6765-038	41129412
6765-039	41129413

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND SDG: 3824C
LAB SAMPLE ID: 41129401 MATRIX: SOIL
CLIENT ID: 6765-027 DATE RECEIVED: 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	4.15E+01	8.5E+00	1.1E+01	3.82E+00	pCi/g	100.00%	RD3214
BETA	4.07E+01	3.1E+00	4.2E+00	2.62E+00	pCi/g	100.00%	RD3214
U-LASER	1.60E+04	2.4E+03	2.4E+03	N/A	UGM/	100.00%	RD4200

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND SDG: 3824C
LAB SAMPLE ID: 41129402 MATRIX: SOIL
CLIENT ID: 6765-028 DATE RECEIVED: 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	5.74E+01	1.0E+01	1.3E+01	4.66E+00	pCi/g	100.00%	RD3214
BETA	4.31E+01	3.3E+00	4.3E+00	2.72E+00	pCi/g	100.00%	RD3214

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND **SDG:** 3824C
LAB SAMPLE ID: 41129403 **MATRIX:** SOIL
CLIENT ID: 6765-029 **DATE RECEIVED:** 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	4.75E+01	9.6E+00	1.2E+01	5.23E+00	pCi/g	100.00%	RD3214
BETA	4.12E+01	3.2E+00	4.2E+00	2.63E+00	pCi/g	100.00%	RD3214
U-LASER	1.02E+04	1.5E+03	1.5E+03	N/A	UGM/	100.00%	RD4200

Number of Results:

SAMPLE RESULTS

LAB NAME:	ITAS-RICHLAND	SDG:	3824C
LAB SAMPLE ID:	41129404	MATRIX:	SOIL
CLIENT ID:	6765-030	DATE RECEIVED:	11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	6.11E+01	1.1E+01	1.5E+01	4.86E+00	pCi/g	100.00%	RD3214
BETA	5.45E+01	3.6E+00	5.1E+00	2.56E+00	pCi/g	100.00%	RD3214

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND **SDG:** 3824C
LAB SAMPLE ID: 41129405 **MATRIX:** SOIL
CLIENT ID: 6765-031 **DATE RECEIVED:** 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	5.23E+01	1.0E+01	1.3E+01	5.24E+00	pCi/g	100.00%	RD3214
BETA	4.18E+01	3.2E+00	4.2E+00	2.82E+00	pCi/g	100.00%	RD3214
U-LASER	1.59E+04	2.4E+03	2.4E+03	N/A	UGM/	100.00%	RD4200

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND **SDG:** 3824C
LAB SAMPLE ID: 41129406 **MATRIX:** SOIL
CLIENT ID: 6765-032 **DATE RECEIVED:** 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	3.82E+01	8.2E+00	1.1E+01	3.83E+00	pCi/g	100.00%	RD3214
BETA	3.39E+01	2.9E+00	3.7E+00	2.62E+00	pCi/g	100.00%	RD3214
U-LASER	1.28E+04	1.9E+03	1.9E+03	N/A	UGM/	100.00%	RD4200

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND SDG: 3824C
LAB SAMPLE ID: 41129407 MATRIX: SOIL
CLIENT ID: 6765-033 DATE RECEIVED: 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	3.69E+01	8.3E+00	9.6E+00	4.65E+00	pCi/g	100.00%	RD3214
BETA	3.50E+01	3.0E+00	3.7E+00	2.85E+00	pCi/g	100.00%	RD3214

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND SDG: 3824C
LAB SAMPLE ID: 41129408 MATRIX: SOIL
CLIENT ID: 6765-034 DATE RECEIVED: 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	4.20E+01	9.0E+00	1.1E+01	5.23E+00	pCi/g	100.00%	RD3214
BETA	3.44E+01	2.9E+00	3.8E+00	2.67E+00	pCi/g	100.00%	RD3214
U-LASER	1.36E+04	2.1E+03	2.1E+03	N/A	UGM/	100.00%	RD4200

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND SDG: 3824C
LAB SAMPLE ID: 41129409 MATRIX: SOIL
CLIENT ID: 6765-035 DATE RECEIVED: 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	5.42E+01	1.0E+01	1.4E+01	4.88E+00	pCi/g	100.00%	RD3214
BETA	4.51E+01	3.3E+00	4.4E+00	2.69E+00	pCi/g	100.00%	RD3214
U-LASER	1.43E+04	2.2E+03	2.2E+03	N/A	UGM/	100.00%	RD4200

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND
LAB SAMPLE ID: 41129410
CLIENT ID: 6765-036

SDG: 3824C
MATRIX: SOIL
DATE RECEIVED: 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	3.37E+01	8.1E+00	9.6E+00	5.24E+00	pCi/g	100.00%	RD3214
BETA	3.50E+01	2.9E+00	3.8E+00	2.56E+00	pCi/g	100.00%	RD3214
U-LASER	1.56E+04	2.3E+03	2.3E+03	N/A	UGM/	100.00%	RD4200

Number of Results:

SAMPLE RESULTS

LAB NAME:	ITAS-RICHLAND	SDG:	3824C
LAB SAMPLE ID:	41129411	MATRIX:	SOIL
CLIENT ID:	6765-037	DATE RECEIVED:	11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	4.45E+01	8.8E+00	1.2E+01	3.82E+00	pCi/g	100.00%	RD3214
BETA	4.01E+01	3.2E+00	4.1E+00	2.83E+00	pCi/g	100.00%	RD3214
U-LASER	1.67E+04	2.5E+03	2.5E+03	N/A	UGM/	100.00%	RD4200

Number of Results:

SAMPLE RESULTS

LAB NAME:	ITAS-RICHLAND	SDG:	3824C
LAB SAMPLE ID:	41129412	MATRIX:	SOIL
CLIENT ID:	6765-038	DATE RECEIVED:	11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	4.33E+01	8.9E+00	1.1E+01	4.67E+00	pCi/g	100.00%	RD3214
BETA	3.99E+01	3.1E+00	4.1E+00	2.61E+00	pCi/g	100.00%	RD3214
U-LASER	1.49E+04	2.2E+03	2.2E+03	N/A	UGM/	100.00%	RD4200

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND **SDG:** 3824C
LAB SAMPLE ID: 41129413 **MATRIX:** SOIL
CLIENT ID: 6765-039 **DATE RECEIVED:** 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	6.08E+01	1.1E+01	1.5E+01	5.21E+00	pCi/g	100.00%	RD3214
BETA	4.73E+01	3.4E+00	4.6E+00	2.85E+00	pCi/g	100.00%	RD3214

Number of Results:

BLANK RESULTS

LAB NAME: ITAS-RICHLAND SDG: 3824C
LAB SAMPLE ID: L112941B MATRIX: SOIL

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	1.72E-01	9.1E-02	1.0E-01	1.11E-01	pCi/sa	100.00%	RD3214
BETA	1.14E-01	2.6E-01	2.6E-01	5.59E-01	pCi/sa	100.00%	RD3214
U-LASER	2.27E+00	3.4E-01	3.4E-01	N/A	UGM/	100.00%	RD4200

Number of Results:

LABORATORY CONTROL SAMPLE

LAB NAME: ITAS-RICHLAND SDG: 3824C
LAB SAMPLE ID: L112941S MATRIX: SOIL

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	EXPECTED	RECOVERY
ALPHA	7.25E+00	5.4E-01	2.0E+00	1.03E-01	pCi/sa	100.00%	8.15E+00	88.96%
BETA	8.28E+00	6.6E-01	8.6E-01	5.74E-01	pCi/sa	100.00%	8.13E+00	101.85%
U-LASER	2.98E+00	4.5E-01	4.5E-01	N/A	ug/sa	100.00%	2.99E+00	99.67%

Number of Results:

Quanterra Incorporated
2800 George Washington Way
Richland, Washington 99352

509 375-3131 Telephone
509 375-5590 Fax

CERTIFICATE OF ANALYSIS

Engineering Science c/o
Quanterra St. Louis
13715 Rider Trail North
Earth City, MO 63045

December 3, 1994

Attention: Wade Price

Date of Receipt : November 11, 1994
Number of Samples : Thirteen (13)
Sample Type : Ash
SDG Number : 3824D
Data Deliverable : Summary

I. Introduction

On November 11, 1994, thirteen ash samples were received by the Quanterra Environmental Services Richland Laboratory (QTESRL) for radiochemical analysis. Upon receipt, the samples were assigned the following laboratory ID numbers to correspond with the Quanterra St. Louis (QSL) specific IDs:

<u>QTESRL ID</u>	<u>QSL ID</u>	<u>Matrix</u>	<u>Date of Receipt</u>
41129501	6765-040	Ash	11/11/94
41129502	6765-041	Ash	11/11/94
41129503	6765-042	Ash	11/11/94
41129504	6765-043	Ash	11/11/94
41129505	6765-044	Ash	11/11/94
41129506	6765-045	Ash	11/11/94
41129507	6765-046	Ash	11/11/94
41129508	6765-047	Ash	11/11/94
41129509	6765-048	Ash	11/11/94
41129510	6765-049	Ash	11/11/94
41129511	6765-050	Ash	11/11/94
41129512	6765-051	Ash	11/11/94
41129513	6765-052	Ash	11/11/94

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II. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information, analytical results and the appropriate associated statistical errors.

The requested analyses were:

Gas Proportional Counting

Gross Alpha by method ITAS-RD-3214

Gross Beta by method ITAS-RD-3214

Total Uranium

Total Uranium by method ITAS-RD-4200

III. Quality Control

The analytical results for each analysis performed under SDG 3824D include a minimum of one Laboratory Control Sample (LCS) and one method (reagent) blank. Any exceptions have been noted in the "Comments" section.

Quality control sample results for Gross Alpha and Gross Beta are reported as pCi/sample. Quality control sample results for Total Uranium are reported in the same units as the samples.

IV. Comments

These samples were not screened, as per advice from St. Louis. The report also lists the matrix as "soil". However, they were "ash" samples, as indicated by the COC.

Gas Proportional Counting

Gross Alpha by method ITAS-RD-3214

The LCS and batch blank results are within contractual limits. Activity for all samples exceed the achieved MDA's (3.82 to 5.23 pCi/gram), which exceed the RDL (3 pCi/gram).

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Gross Beta by method ITAS-RD-3214

The LCS, batch blank, and sample results are within contractual limits.

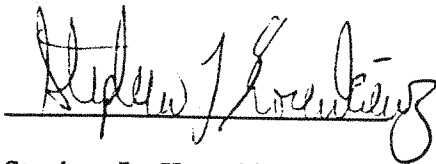
Total Uranium

Total Uranium by method ITAS-RD-4200

The blank result and achieved MDA are above the RDL. The data is accepted, however, since all samples have activities (13,032.484 $\mu\text{g/kg}$ - 20,138.547 $\mu\text{g/kg}$) greater than 5 times the possible contamination level of the blank and the LCS is within contractual requirements.

I certify that this Certificate of Analysis is complete.. Release of the data contained in this hard copy data package has been authorized by the Project Manager or a designee, as verified by the following signature.

Reviewed and approved:



Stephen L. Korenkiewicz
Project Manager

Analytical Data Package Prepared For

Engineering Science

Radiochemical Analysis By

Quanterra Environmental Services
Richland Laboratory

Sample Delivery Group Number: 3824D

CLIENT ID NUMBER

QUANTERRA ID NUMBER

6765-040	41129501
6765-041	41129502
6765-042	41129503
6765-043	41129504
6765-044	41129505
6765-045	41129506
6765-046	41129507
6765-047	41129508
6765-048	41129509
6765-049	41129510
6765-050	41129511
6765-051	41129512
6765-052	41129513

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND **SDG:** 3824D
LAB SAMPLE ID: 41129501 **MATRIX:** SOIL
CLIENT ID: 6765-040 **DATE RECEIVED:** 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	5.13E+01	9.4E+00	1.3E+01	3.82E+00	pCi/g	100.00%	RD3214
BETA	4.43E+01	3.3E+00	4.4E+00	2.56E+00	pCi/g	100.00%	RD3214
U-LASER	2.01E+04	3.0E+03	3.0E+03	N/A	UG/K	100.00%	RD4200

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND SDG: 3824D
LAB SAMPLE ID: 41129502 MATRIX: SOIL
CLIENT ID: 6765-041 DATE RECEIVED: 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	6.40E+01	1.1E+01	1.4E+01	4.65E+00	pCi/g	100.00%	RD3214
BETA	5.04E+01	3.5E+00	4.8E+00	2.82E+00	pCi/g	100.00%	RD3214
U-LASER	4.40E+04	6.6E+03	6.6E+03	N/A	UG/K	100.00%	RD4200

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND SDG: 3824D
LAB SAMPLE ID: 41129503 MATRIX: SOIL
CLIENT ID: 6765-042 DATE RECEIVED: 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	4.98E+01	9.8E+00	1.3E+01	5.23E+00	pCi/g	100.00%	RD3214
BETA	4.27E+01	3.2E+00	4.2E+00	2.62E+00	pCi/g	100.00%	RD3214
U-LASER	1.60E+04	2.4E+03	2.4E+03	N/A	UG/K	100.00%	RD4200

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND SDG: 3824D
LAB SAMPLE ID: 41129504 MATRIX: SOIL
CLIENT ID: 6765-043 DATE RECEIVED: 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	4.01E+01	8.9E+00	1.1E+01	4.85E+00	pCi/g	100.00%	RD3214
BETA	3.67E+01	3.1E+00	3.9E+00	2.85E+00	pCi/g	100.00%	RD3214

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND SDG: 3824D
LAB SAMPLE ID: 41129505 MATRIX: SOIL
CLIENT ID: 6765-044 DATE RECEIVED: 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	3.87E+01	8.7E+00	1.0E+01	5.23E+00	pCi/g	100.00%	RD3214
BETA	3.47E+01	2.9E+00	3.8E+00	2.67E+00	pCi/g	100.00%	RD3214
U-LASER	1.30E+04	2.0E+03	2.0E+03	N/A	UG/K	100.00%	RD4200

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND **SDG:** 3824D
LAB SAMPLE ID: 41129506 **MATRIX:** SOIL
CLIENT ID: 6765-045 **DATE RECEIVED:** 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	5.82E+01	1.0E+01	1.5E+01	3.82E+00	pCi/g	100.00%	RD3214
BETA	3.78E+01	3.1E+00	3.9E+00	2.69E+00	pCi/g	100.00%	RD3214
U-LASER	1.42E+04	2.1E+03	2.1E+03	N/A	UG/K	100.00%	RD4200

Number of Results:

SAMPLE RESULTS

LAB NAME:	ITAS-RICHLAND	SDG:	3824D
LAB SAMPLE ID:	41129507	MATRIX:	SOIL
CLIENT ID:	6765-046	DATE RECEIVED:	11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	7.14E+01	1.1E+01	1.5E+01	4.65E+00	pCi/g	100.00%	RD3214
BETA	4.59E+01	3.3E+00	4.5E+00	2.56E+00	pCi/g	100.00%	RD3214
U-LASER	1.96E+04	2.9E+03	2.9E+03	N/A	UG/K	100.00%	RD4200

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND SDG: 3824D
LAB SAMPLE ID: 41129508 MATRIX: SOIL
CLIENT ID: 6765-047 DATE RECEIVED: 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	6.73E+01	1.1E+01	1.6E+01	5.22E+00	pCi/g	100.00%	RD3214
BETA	4.97E+01	3.5E+00	4.7E+00	2.82E+00	pCi/g	100.00%	RD3214

Number of Results:

SAMPLE RESULTS

LAB NAME:	ITAS-RICHLAND	SDG:	3824D
LAB SAMPLE ID:	41129509	MATRIX:	SOIL
CLIENT ID:	6765-048	DATE RECEIVED:	11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	4.45E+01	9.4E+00	1.2E+01	4.87E+00	pCi/g	100.00%	RD3214
BETA	3.76E+01	3.0E+00	3.9E+00	2.62E+00	pCi/g	100.00%	RD3214
U-LASER	1.73E+04	2.6E+03	2.6E+03	N/A	UG/K	100.00%	RD4200

Number of Results:

SAMPLE RESULTS

LAB NAME:	ITAS-RICHLAND	SDG:	3824D
LAB SAMPLE ID:	41129510	MATRIX:	SOIL
CLIENT ID:	6765-049	DATE RECEIVED:	11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	5.36E+01	1.0E+01	1.3E+01	5.24E+00	pCi/g	100.00%	RD3214
BETA	4.01E+01	3.2E+00	4.1E+00	2.85E+00	pCi/g	100.00%	RD3214
U-LASER	1.67E+04	2.5E+03	2.5E+03	N/A	UG/K	100.00%	RD4200

Number of Results:

SAMPLE RESULTS

LAB NAME:	ITAS-RICHLAND	SDG:	3824D
LAB SAMPLE ID:	41129511	MATRIX:	SOIL
CLIENT ID:	6765-050	DATE RECEIVED:	11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	4.50E+01	8.9E+00	1.2E+01	4.35E+00	pCi/g	100.00%	RD3214
BETA	3.76E+01	3.0E+00	4.0E+00	2.67E+00	pCi/g	100.00%	RD3214
U-LASER	1.54E+04	2.3E+03	2.3E+03	N/A	UG/K	100.00%	RD4200

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND SDG: 3824D
LAB SAMPLE ID: 41129512 MATRIX: SOIL
CLIENT ID: 6765-051 DATE RECEIVED: 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	4.99E+01	9.6E+00	1.2E+01	5.00E+00	pCi/g	100.00%	RD3214
BETA	4.11E+01	3.2E+00	4.2E+00	2.69E+00	pCi/g	100.00%	RD3214
U-LASER	1.55E+04	2.3E+03	2.3E+03	N/A	UG/K	100.00%	RD4200

Number of Results:

SAMPLE RESULTS

LAB NAME:	ITAS-RICHLAND	SDG:	3824D
LAB SAMPLE ID:	41129513	MATRIX:	SOIL
CLIENT ID:	6765-052	DATE RECEIVED:	11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	3.88E+01	8.6E+00	1.1E+01	4.97E+00	pCi/g	100.00%	RD3214
BETA	3.90E+01	3.1E+00	4.0E+00	2.56E+00	pCi/g	100.00%	RD3214
U-LASER	1.41E+04	2.1E+03	2.1E+03	N/A	UG/K	100.00%	RD4200

Number of Results:

BLANK RESULTS

LAB NAME: ITAS-RICHLAND **SDG:** 3824D
LAB SAMPLE ID: L112951B **MATRIX:** SOIL

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	1.41E-02	4.3E-02	4.3E-02	1.03E-01	pCi/sa	100.00%	RD3214
BETA	8.77E-02	2.5E-01	2.5E-01	5.48E-01	pCi/sa	100.00%	RD3214
U-LASER	2.29E+00	3.4E-01	3.4E-01	N/A	UG/K	100.00%	RD4200

Number of Results:

LABORATORY CONTROL SAMPLE

LAB NAME: ITAS-RICHLAND SDG: 3824D
LAB SAMPLE ID: L112951S MATRIX: SOIL

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	EXPECTED	RECOVERY
ALPHA	6.71E+00	5.1E-01	1.6E+00	1.11E-01	pCi/sa	100.00%	8.15E+00	82.33%
BETA	7.85E+00	6.4E-01	8.4E-01	5.55E-01	pCi/sa	100.00%	8.14E+00	96.44%
U-LASER	2.92E+03	4.4E+02	4.4E+02	N/A	UG/K	100.00%	2.99E+03	97.66%

Number of Results:

Quanterra Incorporated
2800 George Washington Way
Richland, Washington 99352

509 375-3131 Telephone
509 375-5590 Fax

CERTIFICATE OF ANALYSIS

Engineering Science c/o
Quanterra St. Louis
13715 Rider Trail North
Earth City, MO 63045

December 3, 1994

Attention: Wade Price

Date of Receipt	:	November 11, 1994
Number of Samples	:	Thirteen (13)
Sample Type	:	Ash
SDG Number	:	3824E
Data Deliverable	:	Summary

I. Introduction

On November 11, 1994, thirteen ash samples were received by the Quanterra Environmental Services Richland Laboratory (QTESRL) for radiochemical analysis. Upon receipt, the samples were assigned the following laboratory ID numbers to correspond with the Quanterra St. Louis (QSL) specific IDs:

<u>QTESRL ID</u>	<u>QSL ID</u>	<u>Matrix</u>	<u>Date of Receipt</u>
41129601	6765-053	Ash	11/11/94
41129602	6765-054	Ash	11/11/94
41129603	6765-055	Ash	11/11/94
41129604	6765-056	Ash	11/11/94
41129605	6765-057	Ash	11/11/94
41129606	6765-058	Ash	11/11/94
41129607	6765-059	Ash	11/11/94
41129608	6765-060	Ash	11/11/94
41129609	6765-061	Ash	11/11/94
41129610	6765-062	Ash	11/11/94
41129611	6765-063	Ash	11/11/94
41129612	6765-064	Ash	11/11/94
41129613	6765-065	Ash	11/11/94

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II. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information, analytical results and the appropriate associated statistical errors.

The requested analyses were:

Gas Proportional Counting

Gross Alpha by method ITAS-RD-3214

Gross Beta by method ITAS-RD-3214

Total Uranium

Total Uranium by method ITAS-RD-4200

III. Quality Control

The analytical results for each analysis performed under SDG 3824E include a minimum of one Laboratory Control Sample (LCS) and one method (reagent) blank. Any exceptions have been noted in the "Comments" section.

Quality control sample results for Gross Alpha and Gross Beta are reported as pCi/sample. Quality control sample results for Total Uranium are reported in the same units as the samples.

IV. Comments

These samples were not screened, as per advice from St. Louis. The report also lists the matrix as "soil". However, they were "ash" samples, as indicated by the COC.

Gas Proportional Counting

Gross Alpha by method ITAS-RD-3214

The LCS and batch blank results are within contractual limits. Activity for all samples exceed the achieved MDA's (3.95 to 5.38 pCi/gram), which exceed the RDL (3 pCi/gram).

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Gross Beta by method ITAS-RD-3214

The LCS, batch blank, and sample results are within contractual limits.

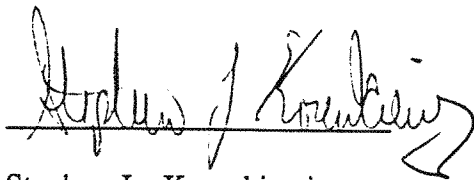
Total Uranium

Total Uranium by method ITAS-RD-4200

The blank result and achieved MDA are above the RDL. The data is accepted, however, since all samples have activities (11,760.265 $\mu\text{g/kg}$ - 22,171.699 $\mu\text{g/kg}$) greater than 5 times the possible contamination level of the blank and the LCS is within contractual requirements.

I certify that this Certificate of Analysis is complete.. Release of the data contained in this hard copy data package has been authorized by the Project Manager or a designee, as verified by the following signature.

Reviewed and approved:



Stephen L. Korenkiewicz
Project Manager

Analytical Data Package Prepared For

Engineering Science

Radiochemical Analysis By

Quanterra Environmental Services
Richland Laboratory

Sample Delivery Group Number: 3824E

CLIENT ID NUMBER

QUANTERRA ID NUMBER

6765-053	41129601
6765-054	41129602
6765-055	41129603
6765-056	41129604
6765-057	41129605
6765-058	41129606
6765-059	41129607
6765-060	41129608
6765-061	41129609
6765-062	41129610
6765-063	41129611
6765-064	41129612
6765-065	41129613

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND SDG: 3824E
LAB SAMPLE ID: 41129601 MATRIX: SOIL
CLIENT ID: 6765-053 DATE RECEIVED: 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	5.27E+01	1.0E+01	1.3E+01	5.38E+00	pCi/g	100.00%	RD3214
BETA	3.79E+01	3.0E+00	3.9E+00	2.51E+00	pCi/g	100.00%	RD3214
U-LASER	1.37E+04	2.1E+03	2.1E+03	N/A	UG/K	100.00%	RD4200

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND SDG: 3824E
LAB SAMPLE ID: 41129602 MATRIX: SOIL
CLIENT ID: 6765-054 DATE RECEIVED: 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	3.66E+01	8.4E+00	1.0E+01	4.46E+00	pCi/g	100.00%	RD3214
BETA	3.74E+01	3.0E+00	3.9E+00	2.55E+00	pCi/g	100.00%	RD3214
U-LASER	1.18E+04	1.8E+03	1.8E+03	N/A	UG/K	100.00%	RD4200

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND SDG: 3824E
LAB SAMPLE ID: 41129603 MATRIX: SOIL
CLIENT ID: 6765-055 DATE RECEIVED: 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	4.30E+01	8.7E+00	1.2E+01	3.95E+00	pCi/g	100.00%	RD3214
BETA	4.35E+01	3.2E+00	4.4E+00	2.56E+00	pCi/g	100.00%	RD3214
U-LASER	1.47E+04	2.2E+03	2.2E+03	N/A	UG/K	100.00%	RD4200

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND SDG: 3824E
LAB SAMPLE ID: 41129604 MATRIX: SOIL
CLIENT ID: 6765-056 DATE RECEIVED: 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	3.01E+01	7.5E+00	8.5E+00	4.42E+00	pCi/g	100.00%	RD3214
BETA	4.46E+01	3.3E+00	4.4E+00	2.52E+00	pCi/g	100.00%	RD3214
U-LASER	1.81E+04	2.7E+03	2.7E+03	N/A	UG/K	100.00%	RD4200

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND **SDG:** 3824E
LAB SAMPLE ID: 41129605 **MATRIX:** SOIL
CLIENT ID: 6765-057 **DATE RECEIVED:** 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	5.05E+01	9.8E+00	1.3E+01	4.86E+00	pCi/g	100.00%	RD3214
BETA	4.85E+01	3.4E+00	4.7E+00	2.52E+00	pCi/g	100.00%	RD3214
U-LASER	2.22E+04	3.3E+03	3.3E+03	N/A	UG/K	100.00%	RD4200

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND SDG: 3824E
LAB SAMPLE ID: 41129606 MATRIX: SOIL
CLIENT ID: 6765-058 DATE RECEIVED: 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	3.51E+01	8.4E+00	1.0E+01	5.38E+00	pCi/g	100.00%	RD3214
BETA	4.42E+01	3.3E+00	4.3E+00	2.53E+00	pCi/g	100.00%	RD3214
U-LASER	1.54E+04	2.3E+03	2.3E+03	N/A	UG/K	100.00%	RD4200

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND **SDG:** 3824E
LAB SAMPLE ID: 41129607 **MATRIX:** SOIL
CLIENT ID: 6765-059 **DATE RECEIVED:** 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	1.06E+02	1.4E+01	2.1E+01	4.46E+00	pCi/g	100.00%	RD3214
BETA	7.19E+01	4.0E+00	6.2E+00	2.51E+00	pCi/g	100.00%	RD3214
U-LASER	2.83E+04	4.2E+03	4.2E+03	N/A	UG/K	100.00%	RD4200

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND **SDG:** 3824E
LAB SAMPLE ID: 41129608 **MATRIX:** SOIL
CLIENT ID: 6765-060 **DATE RECEIVED:** 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	4.19E+01	8.6E+00	1.2E+01	3.97E+00	pCi/g	100.00%	RD3214
BETA	4.21E+01	3.2E+00	4.2E+00	2.55E+00	pCi/g	100.00%	RD3214
U-LASER	1.72E+04	2.6E+03	2.6E+03	N/A	UG/K	100.00%	RD4200

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND SDG: 3824E
LAB SAMPLE ID: 41129609 MATRIX: SOIL
CLIENT ID: 6765-061 DATE RECEIVED: 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	4.30E+01	8.9E+00	1.1E+01	4.41E+00	pCi/g	100.00%	RD3214
BETA	3.91E+01	3.1E+00	4.1E+00	2.56E+00	pCi/g	100.00%	RD3214
U-LASER	1.55E+04	2.3E+03	2.3E+03	N/A	UG/K	100.00%	RD4200

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND SDG: 3824E
LAB SAMPLE ID: 41129610 MATRIX: SOIL
CLIENT ID: 6765-062 DATE RECEIVED: 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	4.88E+01	9.7E+00	1.3E+01	4.86E+00	pCi/g	100.00%	RD3214
BETA	4.87E+01	3.4E+00	4.6E+00	2.51E+00	pCi/g	100.00%	RD3214
U-LASER	2.20E+04	3.3E+03	3.3E+03	N/A	UG/K	100.00%	RD4200

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND SDG: 3824E
LAB SAMPLE ID: 41129611 MATRIX: SOIL
CLIENT ID: 6765-063 DATE RECEIVED: 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	3.51E+01	8.4E+00	1.0E+01	5.39E+00	pCi/g	100.00%	RD3214
BETA	4.11E+01	3.2E+00	4.2E+00	2.52E+00	pCi/g	100.00%	RD3214
U-LASER	1.77E+04	2.7E+03	2.7E+03	N/A	UG/K	100.00%	RD4200

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND **SDG:** 3824E
LAB SAMPLE ID: 41129612 **MATRIX:** SOIL
CLIENT ID: 6765-064 **DATE RECEIVED:** 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	5.59E+01	1.0E+01	1.3E+01	4.44E+00	pCi/g	100.00%	RD3214
BETA	4.35E+01	3.3E+00	4.3E+00	2.86E+00	pCi/g	100.00%	RD3214
U-LASER	1.81E+04	2.7E+03	2.7E+03	N/A	UG/K	100.00%	RD4200

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND SDG: 3824E
LAB SAMPLE ID: 41129613 MATRIX: SOIL
CLIENT ID: 6765-065 DATE RECEIVED: 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	4.62E+01	9.1E+00	1.2E+01	5.03E+00	pCi/g	100.00%	RD3214
BETA	4.54E+01	3.3E+00	4.4E+00	2.51E+00	pCi/g	100.00%	RD3214
U-LASER	1.35E+04	2.0E+03	2.0E+03	N/A	UG/K	100.00%	RD4200

Number of Results:

BLANK RESULTS

LAB NAME: ITAS-RICHLAND SDG: 3824E
LAB SAMPLE ID: L112961B MATRIX: SOIL

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	-1.30E-02	2.3E-02	2.3E-02	9.23E-02	pCi/sa	100.00%	RD3214
BETA	1.79E-01	2.5E-01	2.5E-01	5.34E-01	pCi/sa	100.00%	RD3214
U-LASER	3.60E+01	5.4E+00	5.4E+00	N/A	UG/K	100.00%	RD4200

Number of Results:

LABORATORY CONTROL SAMPLE

LAB NAME: ITAS-RICHLAND SDG: 3824E
LAB SAMPLE ID: L112961S MATRIX: SOIL

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	EXPECTED	RECOVERY
ALPHA	5.91E+00	4.8E-01	1.6E+00	1.02E-01	pCi/sa	100.00%	8.15E+00	72.52%
BETA	8.43E+00	6.6E-01	8.8E-01	5.93E-01	pCi/sa	100.00%	8.06E+00	104.59%
U-LASER	2.76E+00	4.2E-01	4.2E-01	N/A	UG/S	100.00%	2.99E+00	92.31%

Number of Results:

Quanterra Incorporated
2800 George Washington Way
Richland, Washington 99352

509 375-3131 Telephone
509 375-5590 Fax

CERTIFICATE OF ANALYSIS

Engineering Science c/o
Quanterra St. Louis
13715 Rider Trail North
Earth City, MO 63045

December 3, 1994

Attention: Wade Price

Date of Receipt	:	November 11, 1994
Number of Samples	:	Four (4)
Sample Type	:	Ash
SDG Number	:	3824F
Data Deliverable	:	Summary

I. Introduction

On November 11, 1994, four ash samples were received by the Quanterra Environmental Services Richland Laboratory (QTESRL) for radiochemical analysis. Upon receipt, the samples were assigned the following laboratory ID numbers to correspond with the Quanterra St. Louis (QSL) specific IDs:

<u>QTESRL ID</u>	<u>QSL ID</u>	<u>Matrix</u>	<u>Date of Receipt</u>
41129701	6765-066	Ash	11/11/94
41129702	6765-067	Ash	11/11/94
41129703	6765-068	Ash	11/11/94
41129704	6765-069	Ash	11/11/94

II. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information, analytical results and the appropriate associated statistical errors.

Engineering Science
December 3, 1994
SDG 3824F
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The requested analyses were:

- Gas Proportional Counting**
- Gross Alpha by method ITAS-RD-3214
- Gross Beta by method ITAS-RD-3214
- Total Uranium**
- Total Uranium by method ITAS-RD-4200

III. Quality Control

The analytical results for each analysis performed under SDG 3824F include a minimum of one Laboratory Control Sample (LCS) and one method (reagent) blank. Any exceptions have been noted in the "Comments" section.

Quality control sample results for Gross Alpha and Gross Beta are reported as pCi/sample. Quality control sample results for Total Uranium are reported in the same units as the samples.

IV. Comments

These samples were not screened, as per advice from St. Louis. The report also lists the matrix as "soil". However, they were "ash" samples, as indicated by the COC.

Gas Proportional Counting

Gross Alpha by method ITAS-RD-3214

The LCS and batch blank results are within contractual limits. Activity for all samples exceed the achieved MDA's (4.29 to 5.55 pCi/gram), which exceed the RDL (3 pCi/gram).

Engineering Science
December 3, 1994
SDG 3824F
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Gross Beta by method ITAS-RD-3214

The LCS, batch blank, and sample results are within contractual limits.

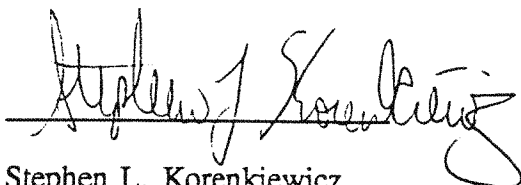
Total Uranium

Total Uranium by method ITAS-RD-4200

The lifetime reading of the batch blank after standard addition was less than the desired 150.00 μg . In order to get an accurate result on the KPA, the lifetime has to be ≥ 150.00 μg . The R^2 reading is less than the optimum .955 as well. It is our technical opinion to call the blank "lost" since we cannot guarantee an accurate result for the blank. The data is accepted, however, since all samples have activities (11,894.541 $\mu\text{g}/\text{kg}$ - 17,471.857 $\mu\text{g}/\text{kg}$) significantly greater than any possible blank contamination and the LCS is within contractual requirements.

I certify that this Certificate of Analysis is complete.. Release of the data contained in this hard copy data package has been authorized by the Project Manager or a designee, as verified by the following signature.

Reviewed and approved:



Stephen L. Korenkiewicz
Project Manager

Analytical Data Package Prepared For

Engineering Science

Radiochemical Analysis By

Quanterra Environmental Services
Richland Laboratory

Sample Delivery Group Number: 3824F

CLIENT ID NUMBER

6765-066
6765-067
6765-068
6765-069

QUANTERRA ID NUMBER

41129701
41129702
41129703
41129704

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND SDG: 3824F
LAB SAMPLE ID: 41129701 MATRIX: SOIL
CLIENT ID: 6765-066 DATE RECEIVED: 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	4.20E+01	9.1E+00	1.1E+01	5.14E+00	pCi/g	100.00%	RD3214
BETA	4.12E+01	3.2E+00	4.1E+00	2.52E+00	pCi/g	100.00%	RD3214
U-LASER	1.75E+04	2.6E+03	2.6E+03	N/A	UG/K	100.00%	RD4200

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND **SDG:** 3824F
LAB SAMPLE ID: 41129702 **MATRIX:** SOIL
CLIENT ID: 6765-067 **DATE RECEIVED:** 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	3.14E+01	7.8E+00	9.1E+00	4.29E+00	pCi/g	100.00%	RD3214
BETA	3.66E+01	3.0E+00	3.9E+00	2.59E+00	pCi/g	100.00%	RD3214
U-LASER	1.19E+04	1.8E+03	1.8E+03	N/A	UG/K	100.00%	RD4200

Number of Results:

SAMPLE RESULTS

LAB NAME:	ITAS-RICHLAND	SDG:	3824F
LAB SAMPLE ID:	41129703	MATRIX:	SOIL
CLIENT ID:	6765-068	DATE RECEIVED:	11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	4.16E+01	8.6E+00	1.2E+01	5.04E+00	pCi/g	100.00%	RD3214
BETA	3.80E+01	3.1E+00	3.9E+00	2.81E+00	pCi/g	100.00%	RD3214

Number of Results:

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND **SDG:** 3824F
LAB SAMPLE ID: 41129704 **MATRIX:** SOIL
CLIENT ID: 6765-069 **DATE RECEIVED:** 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	4.35E+01	9.0E+00	1.1E+01	5.56E+00	pCi/g	100.00%	RD3214
BETA	4.16E+01	3.2E+00	4.2E+00	2.53E+00	pCi/g	100.00%	RD3214
U-LASER	1.35E+04	2.0E+03	2.0E+03	N/A	UG/K	100.00%	RD4200

Number of Results:

BLANK RESULTS

LAB NAME: ITAS-RICHLAND SDG: 3824F
LAB SAMPLE ID: L112971B MATRIX: SOIL

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	-3.72E-03	4.1E-02	4.1E-02	1.16E-01	pCi/sa	100.00%	RD3214
BETA	2.81E-01	2.6E-01	2.6E-01	5.37E-01	pCi/sa	100.00%	RD3214
U-LASER	0.00E+00	0.0E+00	0.0E+00	N/A	UG/K	100.00%	RD4200

Number of Results:

LABORATORY CONTROL SAMPLE

LAB NAME: ITAS-RICHLAND SDG: 3824F
LAB SAMPLE ID: L112971S MATRIX: SOIL

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	EXPECTED	RECOVERY
ALPHA	6.91E+00	5.2E-01	1.9E+00	1.03E-01	pCi/sa	100.00%	8.16E+00	84.68%
BETA	7.56E+00	6.1E-01	8.3E-01	5.21E-01	pCi/sa	100.00%	8.05E+00	93.91%
U-LASER	2.91E+03	4.4E+02	4.4E+02	N/A	UG/K	100.00%	2.99E+03	97.32%

Number of Results:

Engineering Science, Inc.
400 Woods Mill Road
Suite 330
Chesterfield, MO 63017



Category: Gross Alpha-Beta
Method: EPA 900.0
Matrix: Solid

Project: 135.08

Report Date: 02/02/95
Date Sampled: 01/04/95
Date Received: 01/04/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
BG-ASH-1	7254-001	Gross Alpha	01/12/95	01/12/95	24.8	PCI/G	3.8	2.7
BG-ASH-1	7254-001	Gross Beta	01/12/95	01/12/95	31.1	PCI/G	3.4	1.6

Engineering Science, Inc.
400 Woods Mill Road
Suite 330
Chesterfield, MO 63017



Category: Gross Alpha-Beta
Method: EPA 900.0
Matrix: Solid

Project: 135.08

Report Date: 02/02/95
Date Sampled: 01/04/95
Date Received: 01/04/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
BG-ASH-2	7254-002	Gross Alpha	01/12/95	01/12/95	25.6	PCI/G	3.5	2.0
BG-ASH-2	7254-002	Gross Beta	01/12/95	01/12/95	30.1	PCI/G	3.2	1.3

Engineering Science, Inc.
400 Woods Mill Road
Suite 330
Chesterfield, MO 63017



Category: Gross Alpha-Beta
Method: EPA 900.0
Matrix: Solid

Project: 135.08

Report Date: 02/02/95
Date Sampled: 01/04/95
Date Received: 01/04/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
BG-ASH-3	7254-003	Gross Alpha	01/12/95	01/12/95	30.4	PCI/G	4.1	1.9
BG-ASH-3	7254-003	Gross Beta	01/12/95	01/12/95	33.0	PCI/G	3.5	1.4

Engineering Science, Inc.
400 Woods Mill Road
Suite 330
Chesterfield, MO 63017



Category: Gross Alpha-Beta
Method: EPA 900.0
Matrix: Solid

Project: 135.08

Report Date: 02/02/95
Date Sampled: N/A
Date Received: N/A

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
NA	QCBLK56357-1	Gross Alpha	01/12/95	01/12/95	-0.66	PCI/G	1.42	2.13
NA	QCBLK56357-1	Gross Beta	01/12/95	01/12/95	0.54	PCI/G	1.00	1.61

Engineering Science, Inc.
400 Woods Mill Road
Suite 330
Chesterfield, MO 63017



Category: Gross Alpha-Beta
Method: EPA 900.0
Matrix: Solid

Project: 135.08

Report Date: 02/02/95
Date Sampled: N/A
Date Received: N/A

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
NA	QCLCS56357-1	Gross Alpha	01/12/95	01/12/95	156	%REC		
NA	QCLCS56357-1	Gross Beta	01/12/95	01/12/95	110	%REC		

APPENDIX C

LABORATORY REPORTS

FOR TOTAL METALS ANALYSES

Quanterra Incorporated
13715 Rider Trail North
Earth City, Missouri 63045

314 298-8566 Telephone
314 298-8757 Fax

CERTIFICATE OF ANALYSIS

Engineering Science
400 Woods Mill Road
Suite 300
Chesterfield, MO 63017

December 21, 1994

Attention: Mr. Lee Gorday

Project number	:	135.08
Date Received by Lab	:	October 31 and November 4, 1994
Number of Samples	:	Eighty-three (83)
Sample Type	:	Solid
Subcontract Number	:	726589-S-001

I. Introduction

On October 31 and November 4, 1994, eighty-three (83) solid samples were received by Quanterra, St. Louis from Engineering Science analyses. The results of these analyses, along with supporting quality control data and custody documents, are included in the attached report. Upon receipt at the laboratory, the samples were given the following laboratory ID numbers to correspond with its specific client ID's:

<u>CLIENT ID</u>	<u>St. Louis ID</u>
SB01-SS1-2-4	6720-001
SB-01-SS3-6-8	6720-002
SB-01-SS4-14-16	6720-003
SB-02-SS1-2-4	6720-004
SB02-SS3-8-9.5	6720-005
SB-03-SS1-2-4	6720-006
SB-04-SS1-2-4	6720-007
SB05-SS2-6-8	6720-008
SB-01-SS2-4-6	6720-009
SB02-SS2-6-8	6720-010
SB-03-SS2-4-6	6720-011
SB-04-SS2-6-7	6720-012
SB-04-SS3-9-10	6720-013
SB05-SS1-2-4	6720-014
SB-06-SS1-2-4	6765-001
SB-06-SS2-6-8	6765-002
SB-06-SS3-13-14	6765-003

Engineering Science
December 21, 1994
Project Number 135.08
page 2

<u>CLIENT ID</u>	<u>St. Louis ID</u>
SB-07-SS1-2-4	6765-004
SB-07-SS2-4-6	6765-005
SB-09-SS1-0-2	6765-006
SB-09-SS2-6-8	6765-007
SB-08-SS1-0-2	6765-008
SB-08-SS2-6-8	6765-009
SB-08-SS4-16-18	6765-010
SB-10-SS1-2-4	6765-011
SB-10-SS2-6-8	6765-012
SB-11-SS1-0-2	6765-013
SB-11-SS2-4-6	6765-014
SB-11-SS3-8-9	6765-015
SB-12-SS1-0-2	6765-016
SB-12-SS2-2-4	6765-017
SB-12-SS3-8-9	6765-018
SB-12-SS4-10-12	6765-019
SB-13-SS1-0-2	6765-020
SB-13-SS2-6-8	6765-021
SB-13-SS3-8-10	6765-022
SB-14-SS1-0-2	6765-023
SB-14-SS2-4-6	6765-024
SB-14-SS3-8-10	6765-025
SB-15-SS1-2-4	6765-026
SB-15-SS2-6-8	6765-027
SB-15-SS3-8-9	6765-028
SB-20-SS1-0-2	6765-029
SB-20-SS2-4-6	6765-030
SB-20-SS3-8-9	6765-031
SB-19-SS1-0-2	6765-032
SB-19-SS2-4-6	6765-033
SB-19-SS3-6-8	6765-034
SB-23-SS1-2-4	6765-035
SB-23-SS2-6-8	6765-036
SB-22-SS1-2-4	6765-037
SB-22-SS2-6-7	6765-038
SB-18-SS1-2-4	6765-039
SB-18-SS2-4-6	6765-040
SB-18-SS3-6-8	6765-041
SB-16-SS1-0-2	6765-042
SB-16-SS2-4-6	6765-043
SB-16-SS3-8-9	6765-044
SB-16-SS4-10-12	6765-045
SB-17-SS1-2-4	6765-046
SB-17-SS2-4-6	6765-047
SB-17-SS3-6-8	6765-048
SB-25-SS1-2-4	6765-049
SB-25-SS2-6-8	6765-050
SB-24-SS1-2-4	6765-051
SB-24-SS2-6-8	6765-052
SB-27-SS1-2-4	6765-053
SB-27-SS2-6-8	6765-054
SB-29-SS1-2-4	6765-055

Engineering Science
December 21, 1994
Project Number 135.08
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<u>CLIENT ID</u>	<u>St. Louis ID</u>
SB-29-SS2-4-6	6765-056
SB-28-SS1-2-4	6765-057
SB-28-SS2-6-8	6765-058
SB-26-SS1-4-6	6765-059
SB-26-SS2-6-8	6765-060
SB-31-SS1-2-4	6765-061
SB-31-SS2-6-8	6765-062
SB-32-SS1-2-4	6765-063
SB-32-SS2-6-8	6765-064
SB-30-SS1-2-4	6765-065
SB-30-SS2-6-8	6765-066
SB-33-SS1-0-2	6765-067
SB-33-SS2-4-6	6765-068
SB-33-SS3-8-10	6765-069

II. Analytical Results/ Methodology

The analytical results for this report are presented by analytical test. Each set of data will include sample identification information, analytical results, and the appropriate detection limits.

The analysis requested included: ICP metals by EPA method 6010. Gross Alpha/Beta by EPA method 900.0 and Radium 226/228 by EPA method 904.0 analyzed by Quanterra, Richland. Radon analysis performed by Radon Detection Systems.

III. Quality Control

The Quality Assurance/Quality Control (QA/QC) information supporting this analysis can be found immediately following the analytical data. These data are used to assess the laboratory's precision and accuracy during the analytical procedure.

IV. Comments

All Radionuclide analyses were performed at the Richland Laboratory and are sent along with this report. The Radon analysis is also included in this package.

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Low level Aluminum (1.428 mg/L) and Iron (0.6023 mg.L) contamination was detected in the ICP prep blank (PBS52266). However, all the sample results associated with this prep blank were reported since all the sample readings were more than 10 times the contamination level.

I certify that this Certificate of Analysis is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.

Reviewed and approved:



Wade H. Price
Project Manager

e:\\sqm101\\wadeprice\$abbydave\\engscien.coa

Engineering Science, Inc.
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Chesterfield, MO 63017



Project: 135.08

Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Sample Date : 10/31/94
Receipt Date : 10/31/94
Report Date : 12/21/94

Client ID: S801 SS1-2-4

Quanterra ID : 6720-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52261-1	11/23/94	12/05/94	27500	MG/KG		26.0	1
Antimony	7440-36-0	QCBLK52261-1	11/23/94	12/05/94	19.0	MG/KG		13.0	1
Arsenic	7440-38-2	QCBLK52261-1	11/23/94	12/07/94	13.6	MG/KG		0.39	1
Barium	7440-39-3	QCBLK52261-1	11/23/94	12/05/94	3600	MG/KG		26.0	1
Beryllium	7440-41-7	QCBLK52261-1	11/23/94	12/05/94	2.6	MG/KG		0.091	1
Cadmium	7440-43-9	QCBLK52261-1	11/23/94	12/05/94	16.2	MG/KG		2.6	1
Calcium	7440-70-2	QCBLK52261-1	11/23/94	12/05/94	71200	MG/KG		651	1
Chromium	7440-47-3	QCBLK52261-1	11/23/94	12/05/94	398	MG/KG		2.6	1
Cobalt	7440-48-4	QCBLK52261-1	11/23/94	12/05/94	16.8	MG/KG		2.6	1
Copper	7440-50-8	QCBLK52261-1	11/23/94	12/05/94	472	MG/KG		2.6	1
Iron	7439-89-6	QCBLK52261-1	11/23/94	12/06/94	41300	MG/KG		65.1	5
Lead	7439-92-1	QCBLK52261-1	11/23/94	12/07/94	418	MG/KG		0.39	1
Magnesium	7439-95-4	QCBLK52261-1	11/23/94	12/05/94	5830	MG/KG		651	1
Manganese	7439-96-5	QCBLK52261-1	11/23/94	12/05/94	542	MG/KG		1.3	1
Nickel	7440-02-0	QCBLK52261-1	11/23/94	12/05/94	104	MG/KG		5.2	1
Potassium	7440-09-7	QCBLK52261-1	11/23/94	12/05/94	4170	MG/KG		651	1
Silver	7440-22-4	QCBLK52261-1	11/23/94	12/05/94	ND	MG/KG		26.0	1
Sodium	7440-23-5	QCBLK52261-1	11/23/94	12/05/94	2450	MG/KG		130	1
Vanadium	7440-62-2	QCBLK52261-1	11/23/94	12/05/94	118	MG/KG		2.6	1
Zinc	7440-66-6	QCBLK52261-1	11/23/94	12/05/94	2360	MG/KG		2.6	1

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Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Project: 135.08

Sample Date : 10/31/94
Receipt Date : 10/31/94
Report Date : 12/21/94

Client ID: SB-01-SS3-6-8

Quanterra ID : 6720-002

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52261-1	11/23/94	12/05/94	28800	MG/KG		29.7	1
Antimony	7440-36-0	QCBLK52261-1	11/23/94	12/05/94	29.8	MG/KG		14.9	1
Arsenic	7440-38-2	QCBLK52261-1	11/23/94	12/07/94	12.7	MG/KG		0.45	1
Barium	7440-39-3	QCBLK52261-1	11/23/94	12/05/94	3470	MG/KG		29.7	1
Beryllium	7440-41-7	QCBLK52261-1	11/23/94	12/05/94	2.8	MG/KG		0.10	1
Cadmium	7440-43-9	QCBLK52261-1	11/23/94	12/05/94	17.1	MG/KG		3.0	1
Calcium	7440-70-2	QCBLK52261-1	11/23/94	12/05/94	64500	MG/KG		743	1
Chromium	7440-47-3	QCBLK52261-1	11/23/94	12/05/94	407	MG/KG		3.0	1
Cobalt	7440-48-4	QCBLK52261-1	11/23/94	12/05/94	17.5	MG/KG		3.0	1
Copper	7440-50-8	QCBLK52261-1	11/23/94	12/05/94	470	MG/KG		3.0	1
Iron	7439-89-6	QCBLK52261-1	11/23/94	12/06/94	43100	MG/KG		74.3	5
Lead	7439-92-1	QCBLK52261-1	11/23/94	12/07/94	456	MG/KG		0.45	1
Magnesium	7439-95-4	QCBLK52261-1	11/23/94	12/05/94	5830	MG/KG		743	1
Manganese	7439-96-5	QCBLK52261-1	11/23/94	12/05/94	533	MG/KG		1.5	1
Nickel	7440-02-0	QCBLK52261-1	11/23/94	12/05/94	111	MG/KG		5.9	1
Potassium	7440-09-7	QCBLK52261-1	11/23/94	12/05/94	4520	MG/KG		743	1
Silver	7440-22-4	QCBLK52261-1	11/23/94	12/05/94	ND	MG/KG		29.7	1
Sodium	7440-23-5	QCBLK52261-1	11/23/94	12/05/94	2430	MG/KG		149	1
Vanadium	7440-62-2	QCBLK52261-1	11/23/94	12/05/94	121	MG/KG		3.0	1
Zinc	7440-66-6	QCBLK52261-1	11/23/94	12/05/94	2500	MG/KG		3.0	1

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Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Project: 135.08

Sample Date : 10/31/94
Receipt Date : 10/31/94
Report Date : 12/21/94

Client ID: SB-01-SS4-14-16

Quanterra ID : 6720-003

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52261-1	11/23/94	12/05/94	27400 MG/KG		26.2	1
Antimony	7440-36-0	QCBLK52261-1	11/23/94	12/05/94	ND MG/KG		13.1	1
Arsenic	7440-38-2	QCBLK52261-1	11/23/94	12/07/94	17.0 MG/KG		0.39	1
Barium	7440-39-3	QCBLK52261-1	11/23/94	12/05/94	3710 MG/KG		26.2	1
Beryllium	7440-41-7	QCBLK52261-1	11/23/94	12/05/94	2.5 MG/KG		0.092	1
Cadmium	7440-43-9	QCBLK52261-1	11/23/94	12/05/94	15.3 MG/KG		2.6	1
Calcium	7440-70-2	QCBLK52261-1	11/23/94	12/05/94	78400 MG/KG		655	1
Chromium	7440-47-3	QCBLK52261-1	11/23/94	12/05/94	405 MG/KG		2.6	1
Cobalt	7440-48-4	QCBLK52261-1	11/23/94	12/05/94	17.2 MG/KG		2.6	1
Copper	7440-50-8	QCBLK52261-1	11/23/94	12/05/94	471 MG/KG		2.6	1
Iron	7439-89-6	QCBLK52261-1	11/23/94	12/06/94	41600 MG/KG		65.5	5
Lead	7439-92-1	QCBLK52261-1	11/23/94	12/07/94	408 MG/KG		0.39	1
Magnesium	7439-95-4	QCBLK52261-1	11/23/94	12/05/94	6200 MG/KG		655	1
Manganese	7439-96-5	QCBLK52261-1	11/23/94	12/05/94	549 MG/KG		1.3	1
Nickel	7440-02-0	QCBLK52261-1	11/23/94	12/05/94	108 MG/KG		5.2	1
Potassium	7440-09-7	QCBLK52261-1	11/23/94	12/05/94	4350 MG/KG		655	1
Silver	7440-22-4	QCBLK52261-1	11/23/94	12/05/94	ND MG/KG		26.2	1
Sodium	7440-23-5	QCBLK52261-1	11/23/94	12/05/94	2310 MG/KG		131	1
Vanadium	7440-62-2	QCBLK52261-1	11/23/94	12/05/94	109 MG/KG		2.6	1
Zinc	7440-66-6	QCBLK52261-1	11/23/94	12/05/94	2530 MG/KG		2.6	1

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Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Project: 135.08

Sample Date : 10/31/94
Receipt Date : 10/31/94
Report Date : 12/21/94

Client ID: SB-02-SS1-2-4

Quanterra ID : 6720-004

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result Unit	Qual.	Detection	
							Limit	Dilution
Aluminum	7429-90-5	QCBLK52261-1	11/23/94	12/05/94	27700 MG/KG		27.7	1
Antimony	7440-36-0	QCBLK52261-1	11/23/94	12/05/94	29.9 MG/KG		13.8	1
Arsenic	7440-38-2	QCBLK52261-1	11/23/94	12/07/94	13.9 MG/KG		0.42	1
Barium	7440-39-3	QCBLK52261-1	11/23/94	12/05/94	3860 MG/KG		27.7	1
Beryllium	7440-41-7	QCBLK52261-1	11/23/94	12/05/94	2.7 MG/KG		0.097	1
Cadmium	7440-43-9	QCBLK52261-1	11/23/94	12/05/94	16.2 MG/KG		2.8	1
Calcium	7440-70-2	QCBLK52261-1	11/23/94	12/05/94	71400 MG/KG		692	1
Chromium	7440-47-3	QCBLK52261-1	11/23/94	12/05/94	403 MG/KG		2.8	1
Cobalt	7440-48-4	QCBLK52261-1	11/23/94	12/05/94	17.7 MG/KG		2.8	1
Copper	7440-50-8	QCBLK52261-1	11/23/94	12/05/94	480 MG/KG		2.8	1
Iron	7439-89-6	QCBLK52261-1	11/23/94	12/06/94	42500 MG/KG		69.2	5
Lead	7439-92-1	QCBLK52261-1	11/23/94	12/07/94	460 MG/KG		0.42	1
Magnesium	7439-95-4	QCBLK52261-1	11/23/94	12/05/94	6060 MG/KG		692	1
Manganese	7439-96-5	QCBLK52261-1	11/23/94	12/05/94	559 MG/KG		1.4	1
Nickel	7440-02-0	QCBLK52261-1	11/23/94	12/05/94	108 MG/KG		5.5	1
Potassium	7440-09-7	QCBLK52261-1	11/23/94	12/05/94	4190 MG/KG		692	1
Silver	7440-22-4	QCBLK52261-1	11/23/94	12/05/94	ND MG/KG		27.7	1
Sodium	7440-23-5	QCBLK52261-1	11/23/94	12/05/94	2430 MG/KG		138	1
Vanadium	7440-62-2	QCBLK52261-1	11/23/94	12/05/94	119 MG/KG		2.8	1
Zinc	7440-66-6	QCBLK52261-1	11/23/94	12/05/94	2500 MG/KG		2.8	1

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Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Project: 135.08

Sample Date : 10/31/94
Receipt Date : 10/31/94
Report Date : 12/21/94

Client ID: SB02-SS3-8-9.5

Quanterra ID : 6720-005

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52261-1	11/23/94	12/05/94	27500	MG/KG		31.8	1
Antimony	7440-36-0	QCBLK52261-1	11/23/94	12/05/94	22.4	MG/KG		15.9	1
Arsenic	7440-38-2	QCBLK52261-1	11/23/94	12/07/94	13.7	MG/KG		0.48	1
Barium	7440-39-3	QCBLK52261-1	11/23/94	12/05/94	3580	MG/KG		31.8	1
Beryllium	7440-41-7	QCBLK52261-1	11/23/94	12/05/94	2.7	MG/KG		0.11	1
Cadmium	7440-43-9	QCBLK52261-1	11/23/94	12/05/94	20.1	MG/KG		3.2	1
Calcium	7440-70-2	QCBLK52261-1	11/23/94	12/05/94	70200	MG/KG		796	1
Chromium	7440-47-3	QCBLK52261-1	11/23/94	12/05/94	407	MG/KG		3.2	1
Cobalt	7440-48-4	QCBLK52261-1	11/23/94	12/05/94	17.5	MG/KG		3.2	1
Copper	7440-50-8	QCBLK52261-1	11/23/94	12/05/94	468	MG/KG		3.2	1
Iron	7439-89-6	QCBLK52261-1	11/23/94	12/05/94	37300	MG/KG		15.9	1
Lead	7439-92-1	QCBLK52261-1	11/23/94	12/07/94	465	MG/KG		0.48	1
Magnesium	7439-95-4	QCBLK52261-1	11/23/94	12/05/94	5760	MG/KG		796	1
Manganese	7439-96-5	QCBLK52261-1	11/23/94	12/05/94	545	MG/KG		1.6	1
Nickel	7440-02-0	QCBLK52261-1	11/23/94	12/05/94	109	MG/KG		6.4	1
Potassium	7440-09-7	QCBLK52261-1	11/23/94	12/05/94	4230	MG/KG		796	1
Silver	7440-22-4	QCBLK52261-1	11/23/94	12/05/94	ND	MG/KG		31.8	1
Sodium	7440-23-5	QCBLK52261-1	11/23/94	12/05/94	2450	MG/KG		159	1
Vanadium	7440-62-2	QCBLK52261-1	11/23/94	12/05/94	124	MG/KG		3.2	1
Zinc	7440-66-6	QCBLK52261-1	11/23/94	12/05/94	2660	MG/KG		3.2	1

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Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Project: 135.08

Sample Date : 10/31/94
Receipt Date : 10/31/94
Report Date : 12/21/94

Client ID: SB-03-SS1-2-4

Quanterra ID : 6720-006

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result Unit	Qual.	Detection	
							Limit	Dilution
Aluminum	7429-90-5	QCBLK52261-1	11/23/94	12/05/94	29100 MG/KG		27.2	1
Antimony	7440-36-0	QCBLK52261-1	11/23/94	12/05/94	17.5 MG/KG		13.6	1
Arsenic	7440-38-2	QCBLK52261-1	11/23/94	12/07/94	13.1 MG/KG		0.41	1
Barium	7440-39-3	QCBLK52261-1	11/23/94	12/05/94	3100 MG/KG		27.2	1
Beryllium	7440-41-7	QCBLK52261-1	11/23/94	12/05/94	2.8 MG/KG		0.095	1
Cadmium	7440-43-9	QCBLK52261-1	11/23/94	12/05/94	20.1 MG/KG		2.7	1
Calcium	7440-70-2	QCBLK52261-1	11/23/94	12/05/94	82600 MG/KG		679	1
Chromium	7440-47-3	QCBLK52261-1	11/23/94	12/05/94	408 MG/KG		2.7	1
Cobalt	7440-48-4	QCBLK52261-1	11/23/94	12/05/94	17.3 MG/KG		2.7	1
Copper	7440-50-8	QCBLK52261-1	11/23/94	12/05/94	423 MG/KG		2.7	1
Iron	7439-89-6	QCBLK52261-1	11/23/94	12/06/94	42400 MG/KG		67.9	5
Lead	7439-92-1	QCBLK52261-1	11/23/94	12/07/94	502 MG/KG		0.41	1
Magnesium	7439-95-4	QCBLK52261-1	11/23/94	12/05/94	6290 MG/KG		679	1
Manganese	7439-96-5	QCBLK52261-1	11/23/94	12/05/94	569 MG/KG		1.4	1
Nickel	7440-02-0	QCBLK52261-1	11/23/94	12/05/94	106 MG/KG		5.4	1
Potassium	7440-09-7	QCBLK52261-1	11/23/94	12/05/94	4530 MG/KG		679	1
Silver	7440-22-4	QCBLK52261-1	11/23/94	12/05/94	ND MG/KG		27.2	1
Sodium	7440-23-5	QCBLK52261-1	11/23/94	12/05/94	2440 MG/KG		136	1
Vanadium	7440-62-2	QCBLK52261-1	11/23/94	12/05/94	104 MG/KG		2.7	1
Zinc	7440-66-6	QCBLK52261-1	11/23/94	12/05/94	3160 MG/KG		2.7	1



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Environmental
Services

Project: 135.08

Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Sample Date : 10/31/94
Receipt Date : 10/31/94
Report Date : 12/21/94

Client ID: SB-04-SS1-2-4

Quanterra ID : 6720-007

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52261-1	11/23/94	12/05/94	29700	MG/KG		27.5	1
Antimony	7440-36-0	QCBLK52261-1	11/23/94	12/05/94	ND	MG/KG		13.7	1
Arsenic	7440-38-2	QCBLK52261-1	11/23/94	12/07/94	12.7	MG/KG		0.41	1
Barium	7440-39-3	QCBLK52261-1	11/23/94	12/05/94	3700	MG/KG		27.5	1
Beryllium	7440-41-7	QCBLK52261-1	11/23/94	12/05/94	2.9	MG/KG		0.096	1
Cadmium	7440-43-9	QCBLK52261-1	11/23/94	12/05/94	14.9	MG/KG		2.7	1
Calcium	7440-70-2	QCBLK52261-1	11/23/94	12/05/94	72300	MG/KG		686	1
Chromium	7440-47-3	QCBLK52261-1	11/23/94	12/05/94	452	MG/KG		2.7	1
Cobalt	7440-48-4	QCBLK52261-1	11/23/94	12/05/94	18.9	MG/KG		2.7	1
Copper	7440-50-8	QCBLK52261-1	11/23/94	12/05/94	480	MG/KG		2.7	1
Iron	7439-89-6	QCBLK52261-1	11/23/94	12/06/94	45300	MG/KG		68.6	5
Lead	7439-92-1	QCBLK52261-1	11/23/94	12/07/94	462	MG/KG		0.41	1
Magnesium	7439-95-4	QCBLK52261-1	11/23/94	12/05/94	6310	MG/KG		686	1
Manganese	7439-96-5	QCBLK52261-1	11/23/94	12/05/94	568	MG/KG		1.4	1
Nickel	7440-02-0	QCBLK52261-1	11/23/94	12/05/94	116	MG/KG		5.5	1
Potassium	7440-09-7	QCBLK52261-1	11/23/94	12/05/94	4230	MG/KG		686	1
Silver	7440-22-4	QCBLK52261-1	11/23/94	12/05/94	ND	MG/KG		27.5	1
Sodium	7440-23-5	QCBLK52261-1	11/23/94	12/05/94	2640	MG/KG		137	1
Vanadium	7440-62-2	QCBLK52261-1	11/23/94	12/05/94	127	MG/KG		2.7	1
Zinc	7440-66-6	QCBLK52261-1	11/23/94	12/05/94	2640	MG/KG		2.7	1

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Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Project: 135.08

Sample Date : 10/31/94
Receipt Date : 10/31/94
Report Date : 12/21/94

Client ID: SB05-SS2-6-8

Quanterra ID : 6720-008

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52261-1	11/23/94	12/05/94	28500 MG/KG		28.1	1
Antimony	7440-36-0	QCBLK52261-1	11/23/94	12/05/94	15.6 MG/KG		14.1	1
Arsenic	7440-38-2	QCBLK52261-1	11/23/94	12/07/94	ND MG/KG		0.42	1
Barium	7440-39-3	QCBLK52261-1	11/23/94	12/05/94	3450 MG/KG		28.1	1
Beryllium	7440-41-7	QCBLK52261-1	11/23/94	12/05/94	2.7 MG/KG		0.098	1
Cadmium	7440-43-9	QCBLK52261-1	11/23/94	12/05/94	10.8 MG/KG		2.8	1
Calcium	7440-70-2	QCBLK52261-1	11/23/94	12/06/94	97000 MG/KG		3520	5
Chromium	7440-47-3	QCBLK52261-1	11/23/94	12/05/94	393 MG/KG		2.8	1
Cobalt	7440-48-4	QCBLK52261-1	11/23/94	12/05/94	18.9 MG/KG		2.8	1
Copper	7440-50-8	QCBLK52261-1	11/23/94	12/05/94	408 MG/KG		2.8	1
Iron	7439-89-6	QCBLK52261-1	11/23/94	12/06/94	45200 MG/KG		70.3	5
Lead	7439-92-1	QCBLK52261-1	11/23/94	12/07/94	387 MG/KG		0.42	1
Magnesium	7439-95-4	QCBLK52261-1	11/23/94	12/05/94	7310 MG/KG		703	1
Manganese	7439-96-5	QCBLK52261-1	11/23/94	12/05/94	597 MG/KG		1.4	1
Nickel	7440-02-0	QCBLK52261-1	11/23/94	12/05/94	110 MG/KG		5.6	1
Potassium	7440-09-7	QCBLK52261-1	11/23/94	12/05/94	3900 MG/KG		703	1
Silver	7440-22-4	QCBLK52261-1	11/23/94	12/05/94	14.7 MG/KG		28.1	1
Sodium	7440-23-5	QCBLK52261-1	11/23/94	12/05/94	2330 MG/KG		141	1
Vanadium	7440-62-2	QCBLK52261-1	11/23/94	12/05/94	108 MG/KG		2.8	1
Zinc	7440-66-6	QCBLK52261-1	11/23/94	12/05/94	2670 MG/KG		2.8	1

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Project: 135.08

Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Sample Date : 11/01/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Client ID: SB-06-SS2-6-8

Quanterra ID : 6765-002

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52261-1	11/23/94	12/05/94	30400	MG/KG		29.1	1
Antimony	7440-36-0	QCBLK52261-1	11/23/94	12/05/94	16.1	MG/KG		14.5	1
Arsenic	7440-38-2	QCBLK52261-1	11/23/94	12/07/94	15.4	MG/KG		0.44	1
Barium	7440-39-3	QCBLK52261-1	11/23/94	12/05/94	4180	MG/KG		29.1	1
Beryllium	7440-41-7	QCBLK52261-1	11/23/94	12/05/94	3.1	MG/KG		0.10	1
Cadmium	7440-43-9	QCBLK52261-1	11/23/94	12/05/94	21.9	MG/KG		2.9	1
Calcium	7440-70-2	QCBLK52261-1	11/23/94	12/05/94	70300	MG/KG		727	1
Chromium	7440-47-3	QCBLK52261-1	11/23/94	12/05/94	493	MG/KG		2.9	1
Cobalt	7440-48-4	QCBLK52261-1	11/23/94	12/05/94	19.0	MG/KG		2.9	1
Copper	7440-50-8	QCBLK52261-1	11/23/94	12/05/94	521	MG/KG		2.9	1
Iron	7439-89-6	QCBLK52261-1	11/23/94	12/06/94	47100	MG/KG		72.7	5
Lead	7439-92-1	QCBLK52261-1	11/23/94	12/07/94	501	MG/KG		0.44	1
Magnesium	7439-95-4	QCBLK52261-1	11/23/94	12/05/94	6540	MG/KG		727	1
Manganese	7439-96-5	QCBLK52261-1	11/23/94	12/05/94	591	MG/KG		1.5	1
Nickel	7440-02-0	QCBLK52261-1	11/23/94	12/05/94	121	MG/KG		5.8	1
Potassium	7440-09-7	QCBLK52261-1	11/23/94	12/05/94	4930	MG/KG		727	1
Silver	7440-22-4	QCBLK52261-1	11/23/94	12/05/94	ND	MG/KG		29.1	1
Sodium	7440-23-5	QCBLK52261-1	11/23/94	12/05/94	2670	MG/KG		145	1
Vanadium	7440-62-2	QCBLK52261-1	11/23/94	12/05/94	130	MG/KG		2.9	1
Zinc	7440-66-6	QCBLK52261-1	11/23/94	12/05/94	3040	MG/KG		2.9	1

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Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Project: 135.08

Sample Date : 11/01/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Client ID: SB-06-SS3-13-14

Quanterra ID : 6765-003

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52261-1	11/23/94	12/05/94	15800	MG/KG		49.2	1
Antimony	7440-36-0	QCBLK52261-1	11/23/94	12/05/94	ND	MG/KG		24.6	1
Arsenic	7440-38-2	QCBLK52261-1	11/23/94	12/07/94	34.0	MG/KG		0.74	1
Barium	7440-39-3	QCBLK52261-1	11/23/94	12/05/94	3050	MG/KG		49.2	1
Beryllium	7440-41-7	QCBLK52261-1	11/23/94	12/05/94	ND	MG/KG		0.17	1
Cadmium	7440-43-9	QCBLK52261-1	11/23/94	12/05/94	30.4	MG/KG		4.9	1
Calcium	7440-70-2	QCBLK52261-1	11/23/94	12/06/94	221000	MG/KG		6150	5
Chromium	7440-47-3	QCBLK52261-1	11/23/94	12/05/94	510	MG/KG		4.9	1
Cobalt	7440-48-4	QCBLK52261-1	11/23/94	12/05/94	12.2	MG/KG		4.9	1
Copper	7440-50-8	QCBLK52261-1	11/23/94	12/05/94	609	MG/KG		4.9	1
Iron	7439-89-6	QCBLK52261-1	11/23/94	12/05/94	30900	MG/KG		24.6	1
Lead	7439-92-1	QCBLK52261-1	11/23/94	12/07/94	542	MG/KG		0.74	1
Magnesium	7439-95-4	QCBLK52261-1	11/23/94	12/05/94	8560	MG/KG		1230	1
Manganese	7439-96-5	QCBLK52261-1	11/23/94	12/05/94	553	MG/KG		2.5	1
Nickel	7440-02-0	QCBLK52261-1	11/23/94	12/05/94	111	MG/KG		9.8	1
Potassium	7440-09-7	QCBLK52261-1	11/23/94	12/05/94	ND	MG/KG		1230	1
Silver	7440-22-4	QCBLK52261-1	11/23/94	12/05/94	ND	MG/KG		49.2	1
Sodium	7440-23-5	QCBLK52261-1	11/23/94	12/05/94	1430	MG/KG		246	1
Vanadium	7440-62-2	QCBLK52261-1	11/23/94	12/05/94	44.5	MG/KG		4.9	1
Zinc	7440-66-6	QCBLK52261-1	11/23/94	12/05/94	2520	MG/KG		4.9	1

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Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Project: 135.08

Sample Date : 11/01/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Client ID: SB-07-SS1-2-4

Quanterra ID : 6765-004

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52261-1	11/23/94	12/05/94	28600	MG/KG		25.6	1
Antimony	7440-36-0	QCBLK52261-1	11/23/94	12/05/94	25.9	MG/KG		12.8	1
Arsenic	7440-38-2	QCBLK52261-1	11/23/94	12/07/94	12.7	MG/KG		0.38	1
Barium	7440-39-3	QCBLK52261-1	11/23/94	12/05/94	3420	MG/KG		25.6	1
Beryllium	7440-41-7	QCBLK52261-1	11/23/94	12/05/94	2.6	MG/KG		0.090	1
Cadmium	7440-43-9	QCBLK52261-1	11/23/94	12/05/94	13.6	MG/KG		2.6	1
Calcium	7440-70-2	QCBLK52261-1	11/23/94	12/05/94	79100	MG/KG		641	1
Chromium	7440-47-3	QCBLK52261-1	11/23/94	12/05/94	369	MG/KG		2.6	1
Cobalt	7440-48-4	QCBLK52261-1	11/23/94	12/05/94	17.5	MG/KG		2.6	1
Copper	7440-50-8	QCBLK52261-1	11/23/94	12/05/94	438	MG/KG		2.6	1
Iron	7439-89-6	QCBLK52261-1	11/23/94	12/06/94	41800	MG/KG		64.1	5
Lead	7439-92-1	QCBLK52261-1	11/23/94	12/07/94	424	MG/KG		0.38	1
Magnesium	7439-95-4	QCBLK52261-1	11/23/94	12/05/94	6440	MG/KG		641	1
Manganese	7439-96-5	QCBLK52261-1	11/23/94	12/05/94	559	MG/KG		1.3	1
Nickel	7440-02-0	QCBLK52261-1	11/23/94	12/05/94	101	MG/KG		5.1	1
Potassium	7440-09-7	QCBLK52261-1	11/23/94	12/05/94	4140	MG/KG		641	1
Silver	7440-22-4	QCBLK52261-1	11/23/94	12/05/94	ND	MG/KG		25.6	1
Sodium	7440-23-5	QCBLK52261-1	11/23/94	12/05/94	2250	MG/KG		128	1
Vanadium	7440-62-2	QCBLK52261-1	11/23/94	12/05/94	107	MG/KG		2.6	1
Zinc	7440-66-6	QCBLK52261-1	11/23/94	12/05/94	2470	MG/KG		2.6	1



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Environmental
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Project: 135.08

Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Sample Date : 11/01/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Client ID: SB-07-SS2-4-6

Quanterra ID : 6765-005

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52261-1	11/23/94	12/05/94	29100	MG/KG		25.3	1
Antimony	7440-36-0	QCBLK52261-1	11/23/94	12/05/94	16.6	MG/KG		12.6	1
Arsenic	7440-38-2	QCBLK52261-1	11/23/94	12/07/94	12.6	MG/KG		0.38	1
Barium	7440-39-3	QCBLK52261-1	11/23/94	12/05/94	2940	MG/KG		25.3	1
Beryllium	7440-41-7	QCBLK52261-1	11/23/94	12/05/94	2.7	MG/KG		0.088	1
Cadmium	7440-43-9	QCBLK52261-1	11/23/94	12/05/94	15.4	MG/KG		2.5	1
Calcium	7440-70-2	QCBLK52261-1	11/23/94	12/06/94	98100	MG/KG		3160	5
Chromium	7440-47-3	QCBLK52261-1	11/23/94	12/05/94	364	MG/KG		2.5	1
Cobalt	7440-48-4	QCBLK52261-1	11/23/94	12/05/94	17.3	MG/KG		2.5	1
Copper	7440-50-8	QCBLK52261-1	11/23/94	12/05/94	405	MG/KG		2.5	1
Iron	7439-89-6	QCBLK52261-1	11/23/94	12/06/94	42800	MG/KG		63.2	5
Lead	7439-92-1	QCBLK52261-1	11/23/94	12/07/94	441	MG/KG		0.38	1
Magnesium	7439-95-4	QCBLK52261-1	11/23/94	12/05/94	6690	MG/KG		632	1
Manganese	7439-96-5	QCBLK52261-1	11/23/94	12/05/94	587	MG/KG		1.3	1
Nickel	7440-02-0	QCBLK52261-1	11/23/94	12/05/94	101	MG/KG		5.1	1
Potassium	7440-09-7	QCBLK52261-1	11/23/94	12/05/94	4320	MG/KG		632	1
Silver	7440-22-4	QCBLK52261-1	11/23/94	12/05/94	ND	MG/KG		25.3	1
Sodium	7440-23-5	QCBLK52261-1	11/23/94	12/05/94	2610	MG/KG		126	1
Vanadium	7440-62-2	QCBLK52261-1	11/23/94	12/05/94	98.4	MG/KG		2.5	1
Zinc	7440-66-6	QCBLK52261-1	11/23/94	12/05/94	2990	MG/KG		2.5	1

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Project: 135.08

Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Sample Date : 11/01/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Client ID: SB-08-SS1-0-2

Quanterra ID : 6765-008

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52261-1	11/23/94	12/05/94	25500	MG/KG		28.3	1
Antimony	7440-36-0	QCBLK52261-1	11/23/94	12/05/94	ND	MG/KG		14.1	1
Arsenic	7440-38-2	QCBLK52261-1	11/23/94	12/07/94	15.1	MG/KG		0.42	1
Barium	7440-39-3	QCBLK52261-1	11/23/94	12/05/94	3490	MG/KG		28.3	1
Beryllium	7440-41-7	QCBLK52261-1	11/23/94	12/05/94	2.4	MG/KG		0.099	1
Cadmium	7440-43-9	QCBLK52261-1	11/23/94	12/05/94	15.6	MG/KG		2.8	1
Calcium	7440-70-2	QCBLK52261-1	11/23/94	12/05/94	75300	MG/KG		706	1
Chromium	7440-47-3	QCBLK52261-1	11/23/94	12/05/94	344	MG/KG		2.8	1
Cobalt	7440-48-4	QCBLK52261-1	11/23/94	12/05/94	16.4	MG/KG		2.8	1
Copper	7440-50-8	QCBLK52261-1	11/23/94	12/05/94	427	MG/KG		2.8	1
Iron	7439-89-6	QCBLK52261-1	11/23/94	12/05/94	33900	MG/KG		14.1	1
Lead	7439-92-1	QCBLK52261-1	11/23/94	12/07/94	417	MG/KG		0.42	1
Magnesium	7439-95-4	QCBLK52261-1	11/23/94	12/05/94	5890	MG/KG		706	1
Manganese	7439-96-5	QCBLK52261-1	11/23/94	12/05/94	528	MG/KG		1.4	1
Nickel	7440-02-0	QCBLK52261-1	11/23/94	12/05/94	97.2	MG/KG		5.7	1
Potassium	7440-09-7	QCBLK52261-1	11/23/94	12/05/94	4180	MG/KG		706	1
Silver	7440-22-4	QCBLK52261-1	11/23/94	12/05/94	ND	MG/KG		28.3	1
Sodium	7440-23-5	QCBLK52261-1	11/23/94	12/05/94	2060	MG/KG		141	1
Vanadium	7440-62-2	QCBLK52261-1	11/23/94	12/05/94	102	MG/KG		2.8	1
Zinc	7440-66-6	QCBLK52261-1	11/23/94	12/05/94	2410	MG/KG		2.8	1



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Environmental
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Project: 135.08

Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Sample Date : 11/01/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Client ID: SB-08-SS4-16-18

Quanterra ID : 6765-010

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52261-1	11/23/94	12/05/94	28700	MG/KG		27.6	1
Antimony	7440-36-0	QCBLK52261-1	11/23/94	12/05/94	17.0	MG/KG		13.8	1
Arsenic	7440-38-2	QCBLK52261-1	11/23/94	12/07/94	15.7	MG/KG		0.41	1
Barium	7440-39-3	QCBLK52261-1	11/23/94	12/05/94	3390	MG/KG		27.6	1
Beryllium	7440-41-7	QCBLK52261-1	11/23/94	12/05/94	2.6	MG/KG		0.097	1
Cadmium	7440-43-9	QCBLK52261-1	11/23/94	12/05/94	14.8	MG/KG		2.8	1
Calcium	7440-70-2	QCBLK52261-1	11/23/94	12/05/94	81100	MG/KG		691	1
Chromium	7440-47-3	QCBLK52261-1	11/23/94	12/05/94	396	MG/KG		2.8	1
Cobalt	7440-48-4	QCBLK52261-1	11/23/94	12/05/94	17.9	MG/KG		2.8	1
Copper	7440-50-8	QCBLK52261-1	11/23/94	12/05/94	451	MG/KG		2.8	1
Iron	7439-89-6	QCBLK52261-1	11/23/94	12/06/94	43200	MG/KG		69.1	5
Lead	7439-92-1	QCBLK52261-1	11/23/94	12/07/94	433	MG/KG		0.41	1
Magnesium	7439-95-4	QCBLK52261-1	11/23/94	12/05/94	6600	MG/KG		691	1
Manganese	7439-96-5	QCBLK52261-1	11/23/94	12/05/94	588	MG/KG		1.4	1
Nickel	7440-02-0	QCBLK52261-1	11/23/94	12/05/94	110	MG/KG		5.5	1
Potassium	7440-09-7	QCBLK52261-1	11/23/94	12/05/94	4870	MG/KG		691	1
Silver	7440-22-4	QCBLK52261-1	11/23/94	12/05/94	ND	MG/KG		27.6	1
Sodium	7440-23-5	QCBLK52261-1	11/23/94	12/05/94	2120	MG/KG		138	1
Vanadium	7440-62-2	QCBLK52261-1	11/23/94	12/05/94	105	MG/KG		2.8	1
Zinc	7440-66-6	QCBLK52261-1	11/23/94	12/05/94	2470	MG/KG		2.8	1



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Environmental
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Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Project: 135.08

Sample Date : 11/01/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Client ID: SB-09-SS1-0-2

Quanterra ID : 6765-006

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52261-1	11/23/94	12/05/94	31700	MG/KG		26.4	1
Antimony	7440-36-0	QCBLK52261-1	11/23/94	12/05/94	23.3	MG/KG		13.2	1
Arsenic	7440-38-2	QCBLK52261-1	11/23/94	12/07/94	15.2	MG/KG		0.40	1
Barium	7440-39-3	QCBLK52261-1	11/23/94	12/05/94	3750	MG/KG		26.4	1
Beryllium	7440-41-7	QCBLK52261-1	11/23/94	12/05/94	2.9	MG/KG		0.092	1
Cadmium	7440-43-9	QCBLK52261-1	11/23/94	12/05/94	20.4	MG/KG		2.6	1
Calcium	7440-70-2	QCBLK52261-1	11/23/94	12/05/94	73600	MG/KG		659	1
Chromium	7440-47-3	QCBLK52261-1	11/23/94	12/05/94	471	MG/KG		2.6	1
Cobalt	7440-48-4	QCBLK52261-1	11/23/94	12/05/94	17.6	MG/KG		2.6	1
Copper	7440-50-8	QCBLK52261-1	11/23/94	12/05/94	507	MG/KG		2.6	1
Iron	7439-89-6	QCBLK52261-1	11/23/94	12/06/94	46100	MG/KG		65.9	5
Lead	7439-92-1	QCBLK52261-1	11/23/94	12/07/94	513	MG/KG		0.40	1
Magnesium	7439-95-4	QCBLK52261-1	11/23/94	12/05/94	6360	MG/KG		659	1
Manganese	7439-96-5	QCBLK52261-1	11/23/94	12/05/94	588	MG/KG		1.3	1
Nickel	7440-02-0	QCBLK52261-1	11/23/94	12/05/94	121	MG/KG		5.3	1
Potassium	7440-09-7	QCBLK52261-1	11/23/94	12/05/94	4950	MG/KG		659	1
Silver	7440-22-4	QCBLK52261-1	11/23/94	12/05/94	ND	MG/KG		26.4	1
Sodium	7440-23-5	QCBLK52261-1	11/23/94	12/05/94	2570	MG/KG		132	1
Vanadium	7440-62-2	QCBLK52261-1	11/23/94	12/05/94	126	MG/KG		2.6	1
Zinc	7440-66-6	QCBLK52261-1	11/23/94	12/05/94	3100	MG/KG		2.6	1

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Project: 135.08

Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Sample Date : 11/01/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Client ID: SB-09-SS2-6-8

Quanterra ID : 6765-007

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52261-1	11/23/94	12/05/94	27500 MG/KG		28.4	1
Antimony	7440-36-0	QCBLK52261-1	11/23/94	12/05/94	21.8 MG/KG		14.2	1
Arsenic	7440-38-2	QCBLK52261-1	11/23/94	12/07/94	22.3 MG/KG		0.43	1
Barium	7440-39-3	QCBLK52261-1	11/23/94	12/05/94	4190 MG/KG		28.4	1
Beryllium	7440-41-7	QCBLK52261-1	11/23/94	12/05/94	2.6 MG/KG		0.099	1
Cadmium	7440-43-9	QCBLK52261-1	11/23/94	12/05/94	22.9 MG/KG		2.8	1
Calcium	7440-70-2	QCBLK52261-1	11/23/94	12/05/94	86400 MG/KG		710	1
Chromium	7440-47-3	QCBLK52261-1	11/23/94	12/05/94	468 MG/KG		2.8	1
Cobalt	7440-48-4	QCBLK52261-1	11/23/94	12/05/94	17.7 MG/KG		2.8	1
Copper	7440-50-8	QCBLK52261-1	11/23/94	12/05/94	552 MG/KG		2.8	1
Iron	7439-89-6	QCBLK52261-1	11/23/94	12/06/94	42700 MG/KG		71.0	5
Lead	7439-92-1	QCBLK52261-1	11/23/94	12/07/94	490 MG/KG		0.43	1
Magnesium	7439-95-4	QCBLK52261-1	11/23/94	12/05/94	6800 MG/KG		710	1
Manganese	7439-96-5	QCBLK52261-1	11/23/94	12/05/94	563 MG/KG		1.4	1
Nickel	7440-02-0	QCBLK52261-1	11/23/94	12/05/94	123 MG/KG		5.7	1
Potassium	7440-09-7	QCBLK52261-1	11/23/94	12/05/94	4370 MG/KG		710	1
Silver	7440-22-4	QCBLK52261-1	11/23/94	12/05/94	NO MG/KG		28.4	1
Sodium	7440-23-5	QCBLK52261-1	11/23/94	12/05/94	2510 MG/KG		142	1
Vanadium	7440-62-2	QCBLK52261-1	11/23/94	12/05/94	110 MG/KG		2.8	1
Zinc	7440-66-6	QCBLK52261-1	11/23/94	12/05/94	2940 MG/KG		2.8	1

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Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Project: 135.08

Sample Date : 11/01/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Client ID: SB-10-SS2-6-8

Quanterra ID : 6765-012

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52261-1	11/23/94	12/05/94	30900	MG/KG		28.5	1
Antimony	7440-36-0	QCBLK52261-1	11/23/94	12/05/94	16.1	MG/KG		14.3	1
Arsenic	7440-38-2	QCBLK52261-1	11/23/94	12/07/94	10.9	MG/KG		0.43	1
Barium	7440-39-3	QCBLK52261-1	11/23/94	12/05/94	3080	MG/KG		28.5	1
Beryllium	7440-41-7	QCBLK52261-1	11/23/94	12/05/94	2.7	MG/KG		0.10	1
Cadmium	7440-43-9	QCBLK52261-1	11/23/94	12/05/94	16.4	MG/KG		2.9	1
Calcium	7440-70-2	QCBLK52261-1	11/23/94	12/05/94	70000	MG/KG		713	1
Chromium	7440-47-3	QCBLK52261-1	11/23/94	12/05/94	438	MG/KG		2.9	1
Cobalt	7440-48-4	QCBLK52261-1	11/23/94	12/05/94	17.7	MG/KG		2.9	1
Copper	7440-50-8	QCBLK52261-1	11/23/94	12/05/94	448	MG/KG		2.9	1
Iron	7439-89-6	QCBLK52261-1	11/23/94	12/06/94	44000	MG/KG		71.3	5
Lead	7439-92-1	QCBLK52261-1	11/23/94	12/07/94	444	MG/KG		0.43	1
Magnesium	7439-95-4	QCBLK52261-1	11/23/94	12/05/94	5710	MG/KG		713	1
Manganese	7439-96-5	QCBLK52261-1	11/23/94	12/05/94	494	MG/KG		1.4	1
Nickel	7440-02-0	QCBLK52261-1	11/23/94	12/05/94	109	MG/KG		5.7	1
Potassium	7440-09-7	QCBLK52261-1	11/23/94	12/05/94	4890	MG/KG		713	1
Silver	7440-22-4	QCBLK52261-1	11/23/94	12/05/94	ND	MG/KG		28.5	1
Sodium	7440-23-5	QCBLK52261-1	11/23/94	12/05/94	2640	MG/KG		143	1
Vanadium	7440-62-2	QCBLK52261-1	11/23/94	12/05/94	121	MG/KG		2.9	1
Zinc	7440-66-6	QCBLK52261-1	11/23/94	12/05/94	2820	MG/KG		2.9	1

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Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Project: 135.08

Sample Date : 11/02/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Client ID: S8-11-SS1-0-2

Quanterra ID : 6765-013

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52261-1	11/23/94	12/05/94	31300	MG/KG		26.9	1
Antimony	7440-36-0	QCBLK52261-1	11/23/94	12/05/94	17.7	MG/KG		13.5	1
Arsenic	7440-38-2	QCBLK52261-1	11/23/94	12/07/94	15.5	MG/KG		0.40	1
Barium	7440-39-3	QCBLK52261-1	11/23/94	12/05/94	3680	MG/KG		26.9	1
Beryllium	7440-41-7	QCBLK52261-1	11/23/94	12/05/94	3.0	MG/KG		0.094	1
Cadmium	7440-43-9	QCBLK52261-1	11/23/94	12/05/94	14.0	MG/KG		2.7	1
Calcium	7440-70-2	QCBLK52261-1	11/23/94	12/05/94	79600	MG/KG		673	1
Chromium	7440-47-3	QCBLK52261-1	11/23/94	12/05/94	469	MG/KG		2.7	1
Cobalt	7440-48-4	QCBLK52261-1	11/23/94	12/05/94	18.8	MG/KG		2.7	1
Copper	7440-50-8	QCBLK52261-1	11/23/94	12/05/94	462	MG/KG		2.7	1
Iron	7439-89-6	QCBLK52261-1	11/23/94	12/06/94	46300	MG/KG		67.3	5
Lead	7439-92-1	QCBLK52261-1	11/23/94	12/07/94	399	MG/KG		0.40	1
Magnesium	7439-95-4	QCBLK52261-1	11/23/94	12/05/94	6720	MG/KG		673	1
Manganese	7439-96-5	QCBLK52261-1	11/23/94	12/05/94	594	MG/KG		1.3	1
Nickel	7440-02-0	QCBLK52261-1	11/23/94	12/05/94	121	MG/KG		5.4	1
Potassium	7440-09-7	QCBLK52261-1	11/23/94	12/05/94	4450	MG/KG		673	1
Silver	7440-22-4	QCBLK52261-1	11/23/94	12/05/94	ND	MG/KG		26.9	1
Sodium	7440-23-5	QCBLK52261-1	11/23/94	12/05/94	2620	MG/KG		135	1
Vanadium	7440-62-2	QCBLK52261-1	11/23/94	12/05/94	128	MG/KG		2.7	1
Zinc	7440-66-6	QCBLK52261-1	11/23/94	12/05/94	2440	MG/KG		2.7	1



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Environmental
Services

Project: 135.08

Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Sample Date : 11/02/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Client ID: SB-11-SS2-4-6

Quanterra ID : 6765-014

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52261-1	11/23/94	12/05/94	28900	MG/KG		29.3	1
Antimony	7440-36-0	QCBLK52261-1	11/23/94	12/05/94	ND	MG/KG		14.7	1
Arsenic	7440-38-2	QCBLK52261-1	11/23/94	12/07/94	17.0	MG/KG		0.44	1
Barium	7440-39-3	QCBLK52261-1	11/23/94	12/05/94	5860	MG/KG		29.3	1
Beryllium	7440-41-7	QCBLK52261-1	11/23/94	12/05/94	2.9	MG/KG		0.10	1
Cadmium	7440-43-9	QCBLK52261-1	11/23/94	12/05/94	20.7	MG/KG		2.9	1
Calcium	7440-70-2	QCBLK52261-1	11/23/94	12/05/94	61800	MG/KG		733	1
Chromium	7440-47-3	QCBLK52261-1	11/23/94	12/05/94	486	MG/KG		2.9	1
Cobalt	7440-48-4	QCBLK52261-1	11/23/94	12/05/94	20.2	MG/KG		2.9	1
Copper	7440-50-8	QCBLK52261-1	11/23/94	12/05/94	487	MG/KG		2.9	1
Iron	7439-89-6	QCBLK52261-1	11/23/94	12/06/94	47100	MG/KG		73.3	5
Lead	7439-92-1	QCBLK52261-1	11/23/94	12/07/94	560	MG/KG		0.44	1
Magnesium	7439-95-4	QCBLK52261-1	11/23/94	12/05/94	5950	MG/KG		733	1
Manganese	7439-96-5	QCBLK52261-1	11/23/94	12/05/94	489	MG/KG		1.5	1
Nickel	7440-02-0	QCBLK52261-1	11/23/94	12/05/94	115	MG/KG		5.9	1
Potassium	7440-09-7	QCBLK52261-1	11/23/94	12/05/94	4620	MG/KG		733	1
Silver	7440-22-4	QCBLK52261-1	11/23/94	12/05/94	ND	MG/KG		29.3	1
Sodium	7440-23-5	QCBLK52261-1	11/23/94	12/05/94	2560	MG/KG		147	1
Vanadium	7440-62-2	QCBLK52261-1	11/23/94	12/05/94	127	MG/KG		2.9	1
Zinc	7440-66-6	QCBLK52261-1	11/23/94	12/05/94	3880	MG/KG		2.9	1

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Project: 135.08

Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Sample Date : 11/02/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Client ID: SB-11-SS3-8-9

Quanterra ID : 6765-015

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52261-1	11/23/94	12/05/94	27400	MG/KG		31.6	1
Antimony	7440-36-0	QCBLK52261-1	11/23/94	12/05/94	20.3	MG/KG		15.8	1
Arsenic	7440-38-2	QCBLK52261-1	11/23/94	12/07/94	13.5	MG/KG		0.47	1
Barium	7440-39-3	QCBLK52261-1	11/23/94	12/05/94	2000	MG/KG		31.6	1
Beryllium	7440-41-7	QCBLK52261-1	11/23/94	12/05/94	2.7	MG/KG		0.11	1
Cadmium	7440-43-9	QCBLK52261-1	11/23/94	12/05/94	16.3	MG/KG		3.2	1
Calcium	7440-70-2	QCBLK52261-1	11/23/94	12/05/94	94500	MG/KG		791	1
Chromium	7440-47-3	QCBLK52261-1	11/23/94	12/05/94	377	MG/KG		3.2	1
Cobalt	7440-48-4	QCBLK52261-1	11/23/94	12/05/94	15.7	MG/KG		3.2	1
Copper	7440-50-8	QCBLK52261-1	11/23/94	12/05/94	463	MG/KG		3.2	1
Iron	7439-89-6	QCBLK52261-1	11/23/94	12/05/94	37900	MG/KG		15.8	1
Lead	7439-92-1	QCBLK52261-1	11/23/94	12/07/94	550	MG/KG		0.47	1
Magnesium	7439-95-4	QCBLK52261-1	11/23/94	12/05/94	6750	MG/KG		791	1
Manganese	7439-96-5	QCBLK52261-1	11/23/94	12/05/94	539	MG/KG		1.6	1
Nickel	7440-02-0	QCBLK52261-1	11/23/94	12/05/94	133	MG/KG		6.3	1
Potassium	7440-09-7	QCBLK52261-1	11/23/94	12/05/94	3750	MG/KG		791	1
Silver	7440-22-4	QCBLK52261-1	11/23/94	12/05/94	ND	MG/KG		31.6	1
Sodium	7440-23-5	QCBLK52261-1	11/23/94	12/05/94	2470	MG/KG		158	1
Vanadium	7440-62-2	QCBLK52261-1	11/23/94	12/05/94	83.8	MG/KG		3.2	1
Zinc	7440-66-6	QCBLK52261-1	11/23/94	12/05/94	1990	MG/KG		3.2	1

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Project: 135.08

Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Sample Date : 11/02/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Client ID: SB-12-SS1-0-2

Quanterra ID : 6765-016

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52264-1	11/23/94	12/06/94	27100	MG/KG		26.8	1
Antimony	7440-36-0	QCBLK52264-1	11/23/94	12/06/94	ND	MG/KG		13.4	1
Arsenic	7440-38-2	QCBLK52264-1	11/23/94	12/06/94	16.1	MG/KG		0.40	1
Barium	7440-39-3	QCBLK52264-1	11/23/94	12/06/94	4560	MG/KG		26.8	1
Beryllium	7440-41-7	QCBLK52264-1	11/23/94	12/06/94	2.6	MG/KG		0.094	1
Cadmium	7440-43-9	QCBLK52264-1	11/23/94	12/06/94	17.7	MG/KG		2.7	1
Calcium	7440-70-2	QCBLK52264-1	11/23/94	12/06/94	84000	MG/KG		3340	5
Chromium	7440-47-3	QCBLK52264-1	11/23/94	12/06/94	459	MG/KG		2.7	1
Cobalt	7440-48-4	QCBLK52264-1	11/23/94	12/06/94	14.8	MG/KG		2.7	1
Copper	7440-50-8	QCBLK52264-1	11/23/94	12/06/94	464	MG/KG		2.7	1
Iron	7439-89-6	QCBLK52264-1	11/23/94	12/06/94	38800	MG/KG		13.4	1
Lead	7439-92-1	QCBLK52264-1	11/23/94	12/06/94	470	MG/KG		0.40	1
Magnesium	7439-95-4	QCBLK52264-1	11/23/94	12/06/94	5250	MG/KG		669	1
Manganese	7439-96-5	QCBLK52264-1	11/23/94	12/06/94	627	MG/KG		1.3	1
Nickel	7440-02-0	QCBLK52264-1	11/23/94	12/06/94	111	MG/KG		5.4	1
Potassium	7440-09-7	QCBLK52264-1	11/23/94	12/06/94	3900	MG/KG		669	1
Silver	7440-22-4	QCBLK52264-1	11/23/94	12/06/94	ND	MG/KG		26.8	1
Sodium	7440-23-5	QCBLK52264-1	11/23/94	12/06/94	2460	MG/KG		134	1
Vanadium	7440-62-2	QCBLK52264-1	11/23/94	12/06/94	115	MG/KG		2.7	1
Zinc	7440-66-6	QCBLK52264-1	11/23/94	12/06/94	4310	MG/KG		2.7	1

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Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Project: 135.08

Sample Date : 11/02/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Client ID: SB-12-SS3-8-9

Quanterra ID : 6765-018

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52264-1	11/23/94	12/06/94	28100	MG/KG		30.9	1
Antimony	7440-36-0	QCBLK52264-1	11/23/94	12/06/94	16.1	MG/KG		15.5	1
Arsenic	7440-38-2	QCBLK52264-1	11/23/94	12/06/94	13.3	MG/KG		0.46	1
Barium	7440-39-3	QCBLK52264-1	11/23/94	12/06/94	3440	MG/KG		30.9	1
Beryllium	7440-41-7	QCBLK52264-1	11/23/94	12/06/94	2.7	MG/KG		0.11	1
Cadmium	7440-43-9	QCBLK52264-1	11/23/94	12/06/94	18.4	MG/KG		3.1	1
Calcium	7440-70-2	QCBLK52264-1	11/23/94	12/06/94	71400	MG/KG		774	1
Chromium	7440-47-3	QCBLK52264-1	11/23/94	12/06/94	470	MG/KG		3.1	1
Cobalt	7440-48-4	QCBLK52264-1	11/23/94	12/06/94	15.7	MG/KG		3.1	1
Copper	7440-50-8	QCBLK52264-1	11/23/94	12/06/94	511	MG/KG		3.1	1
Iron	7439-89-6	QCBLK52264-1	11/23/94	12/06/94	39600	MG/KG		15.5	1
Lead	7439-92-1	QCBLK52264-1	11/23/94	12/06/94	500	MG/KG		0.46	1
Magnesium	7439-95-4	QCBLK52264-1	11/23/94	12/06/94	5890	MG/KG		774	1
Manganese	7439-96-5	QCBLK52264-1	11/23/94	12/06/94	505	MG/KG		1.5	1
Nickel	7440-02-0	QCBLK52264-1	11/23/94	12/06/94	123	MG/KG		6.2	1
Potassium	7440-09-7	QCBLK52264-1	11/23/94	12/06/94	4460	MG/KG		774	1
Silver	7440-22-4	QCBLK52264-1	11/23/94	12/06/94	ND	MG/KG		30.9	1
Sodium	7440-23-5	QCBLK52264-1	11/23/94	12/06/94	2460	MG/KG		155	1
Vanadium	7440-62-2	QCBLK52264-1	11/23/94	12/06/94	121	MG/KG		3.1	1
Zinc	7440-66-6	QCBLK52264-1	11/23/94	12/06/94	2820	MG/KG		3.1	1

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Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Project: 135.08

Sample Date : 11/02/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Client ID: S8-13-SS1-0-2

Quanterra ID : 6765-020

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52264-1	11/23/94	12/06/94	28600	MG/KG		24.8	1
Antimony	7440-36-0	QCBLK52264-1	11/23/94	12/06/94	16.4	MG/KG		12.4	1
Arsenic	7440-38-2	QCBLK52264-1	11/23/94	12/06/94	13.2	MG/KG		0.37	1
Barium	7440-39-3	QCBLK52264-1	11/23/94	12/06/94	3950	MG/KG		24.8	1
Beryllium	7440-41-7	QCBLK52264-1	11/23/94	12/06/94	2.6	MG/KG		0.087	1
Cadmium	7440-43-9	QCBLK52264-1	11/23/94	12/06/94	15.8	MG/KG		2.5	1
Calcium	7440-70-2	QCBLK52264-1	11/23/94	12/06/94	81800	MG/KG		3100	5
Chromium	7440-47-3	QCBLK52264-1	11/23/94	12/06/94	437	MG/KG		2.5	1
Cobalt	7440-48-4	QCBLK52264-1	11/23/94	12/06/94	15.9	MG/KG		2.5	1
Copper	7440-50-8	QCBLK52264-1	11/23/94	12/06/94	526	MG/KG		2.5	1
Iron	7439-89-6	QCBLK52264-1	11/23/94	12/06/94	39100	MG/KG		12.4	1
Lead	7439-92-1	QCBLK52264-1	11/23/94	12/06/94	474	MG/KG		0.37	1
Magnesium	7439-95-4	QCBLK52264-1	11/23/94	12/06/94	5670	MG/KG		619	1
Manganese	7439-96-5	QCBLK52264-1	11/23/94	12/06/94	583	MG/KG		1.2	1
Nickel	7440-02-0	QCBLK52264-1	11/23/94	12/06/94	119	MG/KG		5.0	1
Potassium	7440-09-7	QCBLK52264-1	11/23/94	12/06/94	4860	MG/KG		619	1
Silver	7440-22-4	QCBLK52264-1	11/23/94	12/06/94	ND	MG/KG		24.8	1
Sodium	7440-23-5	QCBLK52264-1	11/23/94	12/06/94	2250	MG/KG		124	1
Vanadium	7440-62-2	QCBLK52264-1	11/23/94	12/06/94	125	MG/KG		2.5	1
Zinc	7440-66-6	QCBLK52264-1	11/23/94	12/06/94	2630	MG/KG		2.5	1

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Project: 135.08

Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Sample Date : 11/02/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Client ID: SB-13-SS3-8-10

Quanterra ID : 6765-022

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52264-1	11/23/94	12/06/94	30800	MG/KG		30.3	1
Antimony	7440-36-0	QCBLK52264-1	11/23/94	12/06/94	ND	MG/KG		15.2	1
Arsenic	7440-38-2	QCBLK52264-1	11/23/94	12/06/94	14.8	MG/KG		0.46	1
Barium	7440-39-3	QCBLK52264-1	11/23/94	12/06/94	4380	MG/KG		30.3	1
Beryllium	7440-41-7	QCBLK52264-1	11/23/94	12/06/94	2.9	MG/KG		0.11	1
Cadmium	7440-43-9	QCBLK52264-1	11/23/94	12/06/94	21.6	MG/KG		3.0	1
Calcium	7440-70-2	QCBLK52264-1	11/23/94	12/06/94	79200	MG/KG		759	1
Chromium	7440-47-3	QCBLK52264-1	11/23/94	12/06/94	473	MG/KG		3.0	1
Cobalt	7440-48-4	QCBLK52264-1	11/23/94	12/06/94	15.7	MG/KG		3.0	1
Copper	7440-50-8	QCBLK52264-1	11/23/94	12/06/94	471	MG/KG		3.0	1
Iron	7439-89-6	QCBLK52264-1	11/23/94	12/06/94	42900	MG/KG		15.2	1
Lead	7439-92-1	QCBLK52264-1	11/23/94	12/06/94	542	MG/KG		0.46	1
Magnesium	7439-95-4	QCBLK52264-1	11/23/94	12/06/94	5860	MG/KG		759	1
Manganese	7439-96-5	QCBLK52264-1	11/23/94	12/06/94	629	MG/KG		1.5	1
Nickel	7440-02-0	QCBLK52264-1	11/23/94	12/06/94	118	MG/KG		6.1	1
Potassium	7440-09-7	QCBLK52264-1	11/23/94	12/06/94	5160	MG/KG		759	1
Silver	7440-22-4	QCBLK52264-1	11/23/94	12/06/94	ND	MG/KG		30.3	1
Sodium	7440-23-5	QCBLK52264-1	11/23/94	12/06/94	2770	MG/KG		152	1
Vanadium	7440-62-2	QCBLK52264-1	11/23/94	12/06/94	117	MG/KG		3.0	1
Zinc	7440-66-6	QCBLK52264-1	11/23/94	12/06/94	4050	MG/KG		3.0	1



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Environmental
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Project: 135.08

Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Sample Date : 11/02/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Client ID: SB-14-SS1-0-2

Quanterra ID : 6765-023

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52264-1	11/23/94	12/06/94	30200	MG/KG		23.8	1
Antimony	7440-36-0	QCBLK52264-1	11/23/94	12/06/94	ND	MG/KG		11.9	1
Arsenic	7440-38-2	QCBLK52264-1	11/23/94	12/06/94	33.4	MG/KG		0.36	1
Barium	7440-39-3	QCBLK52264-1	11/23/94	12/06/94	2600	MG/KG		23.8	1
Beryllium	7440-41-7	QCBLK52264-1	11/23/94	12/06/94	2.9	MG/KG		0.083	1
Cadmium	7440-43-9	QCBLK52264-1	11/23/94	12/06/94	15.0	MG/KG		2.4	1
Calcium	7440-70-2	QCBLK52264-1	11/23/94	12/06/94	108000	MG/KG		2970	5
Chromium	7440-47-3	QCBLK52264-1	11/23/94	12/06/94	570	MG/KG		11.9	5
Cobalt	7440-48-4	QCBLK52264-1	11/23/94	12/06/94	14.6	MG/KG		2.4	1
Copper	7440-50-8	QCBLK52264-1	11/23/94	12/06/94	444	MG/KG		2.4	1
Iron	7439-89-6	QCBLK52264-1	11/23/94	12/06/94	37200	MG/KG		11.9	1
Lead	7439-92-1	QCBLK52264-1	11/23/94	12/06/94	523	MG/KG		0.36	1
Magnesium	7439-95-4	QCBLK52264-1	11/23/94	12/06/94	5670	MG/KG		594	1
Manganese	7439-96-5	QCBLK52264-1	11/23/94	12/06/94	551	MG/KG		1.2	1
Nickel	7440-02-0	QCBLK52264-1	11/23/94	12/06/94	169	MG/KG		4.8	1
Potassium	7440-09-7	QCBLK52264-1	11/23/94	12/06/94	4250	MG/KG		594	1
Silver	7440-22-4	QCBLK52264-1	11/23/94	12/06/94	ND	MG/KG		119	5
Sodium	7440-23-5	QCBLK52264-1	11/23/94	12/06/94	2750	MG/KG		119	1
Vanadium	7440-62-2	QCBLK52264-1	11/23/94	12/06/94	118	MG/KG		11.9	5
Zinc	7440-66-6	QCBLK52264-1	11/23/94	12/06/94	2210	MG/KG		2.4	1



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Environmental
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Project: 135.08

Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Sample Date : 11/02/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Client ID: SB-14-SS2-4-6

Quanterra ID : 6765-024

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52264-1	11/23/94	12/06/94	29500	MG/KG		27.7	1
Antimony	7440-36-0	QCBLK52264-1	11/23/94	12/06/94	16.3	MG/KG		13.9	1
Arsenic	7440-38-2	QCBLK52264-1	11/23/94	12/06/94	11.9	MG/KG		0.42	1
Barium	7440-39-3	QCBLK52264-1	11/23/94	12/06/94	3540	MG/KG		27.7	1
Beryllium	7440-41-7	QCBLK52264-1	11/23/94	12/06/94	2.6	MG/KG		0.097	1
Cadmium	7440-43-9	QCBLK52264-1	11/23/94	12/06/94	10.1	MG/KG		2.8	1
Calcium	7440-70-2	QCBLK52264-1	11/23/94	12/06/94	86700	MG/KG		3470	5
Chromium	7440-47-3	QCBLK52264-1	11/23/94	12/06/94	407	MG/KG		2.8	1
Cobalt	7440-48-4	QCBLK52264-1	11/23/94	12/06/94	15.7	MG/KG		2.8	1
Copper	7440-50-8	QCBLK52264-1	11/23/94	12/06/94	471	MG/KG		2.8	1
Iron	7439-89-6	QCBLK52264-1	11/23/94	12/06/94	40000	MG/KG		13.9	1
Lead	7439-92-1	QCBLK52264-1	11/23/94	12/06/94	403	MG/KG		0.42	1
Magnesium	7439-95-4	QCBLK52264-1	11/23/94	12/06/94	5660	MG/KG		694	1
Manganese	7439-96-5	QCBLK52264-1	11/23/94	12/06/94	534	MG/KG		1.4	1
Nickel	7440-02-0	QCBLK52264-1	11/23/94	12/06/94	113	MG/KG		5.5	1
Potassium	7440-09-7	QCBLK52264-1	11/23/94	12/06/94	4670	MG/KG		694	1
Silver	7440-22-4	QCBLK52264-1	11/23/94	12/06/94	ND	MG/KG		27.7	1
Sodium	7440-23-5	QCBLK52264-1	11/23/94	12/06/94	2750	MG/KG		139	1
Vanadium	7440-62-2	QCBLK52264-1	11/23/94	12/06/94	117	MG/KG		2.8	1
Zinc	7440-66-6	QCBLK52264-1	11/23/94	12/06/94	2700	MG/KG		2.8	1

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Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Project: 135.08

Sample Date : 11/02/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Client ID: SB-15-SS1-2-4

Quanterra ID : 6765-026

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52264-1	11/23/94	12/06/94	28600	MG/KG		25.6	1
Antimony	7440-36-0	QCBLK52264-1	11/23/94	12/06/94	16.7	MG/KG		12.8	1
Arsenic	7440-38-2	QCBLK52264-1	11/23/94	12/06/94	15.7	MG/KG		0.38	1
Barium	7440-39-3	QCBLK52264-1	11/23/94	12/06/94	5540	MG/KG		25.6	1
Beryllium	7440-41-7	QCBLK52264-1	11/23/94	12/06/94	2.7	MG/KG		0.090	1
Cadmium	7440-43-9	QCBLK52264-1	11/23/94	12/06/94	20.1	MG/KG		2.6	1
Calcium	7440-70-2	QCBLK52264-1	11/23/94	12/06/94	82600	MG/KG		3200	5
Chromium	7440-47-3	QCBLK52264-1	11/23/94	12/06/94	470	MG/KG		2.6	1
Cobalt	7440-48-4	QCBLK52264-1	11/23/94	12/06/94	16.4	MG/KG		2.6	1
Copper	7440-50-8	QCBLK52264-1	11/23/94	12/06/94	532	MG/KG		2.6	1
Iron	7439-89-6	QCBLK52264-1	11/23/94	12/06/94	40900	MG/KG		12.8	1
Lead	7439-92-1	QCBLK52264-1	11/23/94	12/06/94	536	MG/KG		0.38	1
Magnesium	7439-95-4	QCBLK52264-1	11/23/94	12/06/94	5840	MG/KG		639	1
Manganese	7439-96-5	QCBLK52264-1	11/23/94	12/06/94	624	MG/KG		1.3	1
Nickel	7440-02-0	QCBLK52264-1	11/23/94	12/06/94	118	MG/KG		5.1	1
Potassium	7440-09-7	QCBLK52264-1	11/23/94	12/06/94	4610	MG/KG		639	1
Silver	7440-22-4	QCBLK52264-1	11/23/94	12/06/94	NO	MG/KG		25.6	1
Sodium	7440-23-5	QCBLK52264-1	11/23/94	12/06/94	2540	MG/KG		128	1
Vanadium	7440-62-2	QCBLK52264-1	11/23/94	12/06/94	132	MG/KG		2.6	1
Zinc	7440-66-6	QCBLK52264-1	11/23/94	12/06/94	4330	MG/KG		2.6	1



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Environmental
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Project: 135.08

Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Sample Date : 11/02/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Client ID: SB-15-SS2-6-8

Quanterra ID : 6765-027

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52264-1	11/23/94	12/06/94	24900	MG/KG		29.9	1
Antimony	7440-36-0	QCBLK52264-1	11/23/94	12/06/94	15.3	MG/KG		15.0	1
Arsenic	7440-38-2	QCBLK52264-1	11/23/94	12/06/94	28.5	MG/KG		0.45	1
Barium	7440-39-3	QCBLK52264-1	11/23/94	12/06/94	3970	MG/KG		29.9	1
Beryllium	7440-41-7	QCBLK52264-1	11/23/94	12/06/94	2.1	MG/KG		0.10	1
Cadmium	7440-43-9	QCBLK52264-1	11/23/94	12/06/94	19.7	MG/KG		3.0	1
Calcium	7440-70-2	QCBLK52264-1	11/23/94	12/06/94	127000	MG/KG		3740	5
Chromium	7440-47-3	QCBLK52264-1	11/23/94	12/06/94	505	MG/KG		15.0	5
Cobalt	7440-48-4	QCBLK52264-1	11/23/94	12/06/94	12.9	MG/KG		3.0	1
Copper	7440-50-8	QCBLK52264-1	11/23/94	12/06/94	534	MG/KG		3.0	1
Iron	7439-89-6	QCBLK52264-1	11/23/94	12/06/94	36900	MG/KG		15.0	1
Lead	7439-92-1	QCBLK52264-1	11/23/94	12/06/94	459	MG/KG		0.45	1
Magnesium	7439-95-4	QCBLK52264-1	11/23/94	12/06/94	6550	MG/KG		748	1
Manganese	7439-96-5	QCBLK52264-1	11/23/94	12/06/94	617	MG/KG		1.5	1
Nickel	7440-02-0	QCBLK52264-1	11/23/94	12/06/94	125	MG/KG		6.0	1
Potassium	7440-09-7	QCBLK52264-1	11/23/94	12/06/94	3340	MG/KG		748	1
Silver	7440-22-4	QCBLK52264-1	11/23/94	12/06/94	ND	MG/KG		150	5
Sodium	7440-23-5	QCBLK52264-1	11/23/94	12/06/94	2300	MG/KG		150	1
Vanadium	7440-62-2	QCBLK52264-1	11/23/94	12/06/94	110	MG/KG		15.0	5
Zinc	7440-66-6	QCBLK52264-1	11/23/94	12/06/94	3370	MG/KG		3.0	1



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Environmental
Services

Project: 135.08

Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Sample Date : 11/03/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Client ID: SB-16-SS1-0-2

Quanterra ID : 6765-042

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52264-1	11/23/94	12/06/94	26200	MG/KG		24.5	1
Antimony	7440-36-0	QCBLK52264-1	11/23/94	12/06/94	17.3	MG/KG		12.3	1
Arsenic	7440-38-2	QCBLK52264-1	11/23/94	12/06/94	11.1	MG/KG		0.37	1
Barium	7440-39-3	QCBLK52264-1	11/23/94	12/06/94	2920	MG/KG		24.5	1
Beryllium	7440-41-7	QCBLK52264-1	11/23/94	12/06/94	2.4	MG/KG		0.086	1
Cadmium	7440-43-9	QCBLK52264-1	11/23/94	12/06/94	7.8	MG/KG		2.5	1
Calcium	7440-70-2	QCBLK52264-1	11/23/94	12/06/94	94400	MG/KG		3070	5
Chromium	7440-47-3	QCBLK52264-1	11/23/94	12/06/94	346	MG/KG		12.3	5
Cobalt	7440-48-4	QCBLK52264-1	11/23/94	12/06/94	16.2	MG/KG		2.5	1
Copper	7440-50-8	QCBLK52264-1	11/23/94	12/06/94	405	MG/KG		2.5	1
Iron	7439-89-6	QCBLK52264-1	11/23/94	12/06/94	38000	MG/KG		12.3	1
Lead	7439-92-1	QCBLK52264-1	11/23/94	12/06/94	413	MG/KG		0.37	1
Magnesium	7439-95-4	QCBLK52264-1	11/23/94	12/06/94	6280	MG/KG		613	1
Manganese	7439-96-5	QCBLK52264-1	11/23/94	12/06/94	596	MG/KG		1.2	1
Nickel	7440-02-0	QCBLK52264-1	11/23/94	12/06/94	130	MG/KG		4.9	1
Potassium	7440-09-7	QCBLK52264-1	11/23/94	12/06/94	3590	MG/KG		613	1
Silver	7440-22-4	QCBLK52264-1	11/23/94	12/06/94	ND	MG/KG		123	5
Sodium	7440-23-5	QCBLK52264-1	11/23/94	12/06/94	1850	MG/KG		123	1
Vanadium	7440-62-2	QCBLK52264-1	11/23/94	12/06/94	101	MG/KG		12.3	5
Zinc	7440-66-6	QCBLK52264-1	11/23/94	12/06/94	2350	MG/KG		2.5	1



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Environmental
Services

Project: 135.08

Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Sample Date : 11/03/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Client ID: SB-16-SS3-8-9

Quanterra ID : 6765-044

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52264-1	11/23/94	12/06/94	31800	MG/KG		30.4	1
Antimony	7440-36-0	QCBLK52264-1	11/23/94	12/06/94	ND	MG/KG		15.2	1
Arsenic	7440-38-2	QCBLK52264-1	11/23/94	12/06/94	11.2	MG/KG		0.46	1
Barium	7440-39-3	QCBLK52264-1	11/23/94	12/06/94	3090	MG/KG		30.4	1
Beryllium	7440-41-7	QCBLK52264-1	11/23/94	12/06/94	2.8	MG/KG		0.11	1
Cadmium	7440-43-9	QCBLK52264-1	11/23/94	12/06/94	9.3	MG/KG		3.0	1
Calcium	7440-70-2	QCBLK52264-1	11/23/94	12/06/94	94800	MG/KG		3800	5
Chromium	7440-47-3	QCBLK52264-1	11/23/94	12/06/94	413	MG/KG		3.0	1
Cobalt	7440-48-4	QCBLK52264-1	11/23/94	12/06/94	18.1	MG/KG		3.0	1
Copper	7440-50-8	QCBLK52264-1	11/23/94	12/06/94	436	MG/KG		3.0	1
Iron	7439-89-6	QCBLK52264-1	11/23/94	12/06/94	43100	MG/KG		15.2	1
Lead	7439-92-1	QCBLK52264-1	11/23/94	12/06/94	449	MG/KG		0.46	1
Magnesium	7439-95-4	QCBLK52264-1	11/23/94	12/06/94	7520	MG/KG		761	1
Manganese	7439-96-5	QCBLK52264-1	11/23/94	12/06/94	645	MG/KG		1.5	1
Nickel	7440-02-0	QCBLK52264-1	11/23/94	12/06/94	125	MG/KG		6.1	1
Potassium	7440-09-7	QCBLK52264-1	11/23/94	12/06/94	4430	MG/KG		761	1
Silver	7440-22-4	QCBLK52264-1	11/23/94	12/06/94	ND	MG/KG		30.4	1
Sodium	7440-23-5	QCBLK52264-1	11/23/94	12/06/94	2530	MG/KG		152	1
Vanadium	7440-62-2	QCBLK52264-1	11/23/94	12/06/94	115	MG/KG		3.0	1
Zinc	7440-66-6	QCBLK52264-1	11/23/94	12/06/94	2410	MG/KG		3.0	1



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Environmental
Services

Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Project: 135.08

Sample Date : 11/03/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Client ID: SB-16-SS4-10-12

Quanterra ID : 6765-045

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52266-1	11/23/94	12/06/94	26600	MG/KG		24.5	1
Antimony	7440-36-0	QCBLK52266-1	11/23/94	12/06/94	ND	MG/KG		12.3	1
Arsenic	7440-38-2	QCBLK52266-1	11/23/94	12/06/94	12.0	MG/KG		0.37	1
Barium	7440-39-3	QCBLK52266-1	11/23/94	12/06/94	3320	MG/KG		24.5	1
Beryllium	7440-41-7	QCBLK52266-1	11/23/94	12/06/94	2.3	MG/KG		0.086	1
Cadmium	7440-43-9	QCBLK52266-1	11/23/94	12/06/94	8.5	MG/KG		2.5	1
Calcium	7440-70-2	QCBLK52266-1	11/23/94	12/06/94	91500	MG/KG		3070	5
Chromium	7440-47-3	QCBLK52266-1	11/23/94	12/06/94	361	MG/KG		12.3	5
Cobalt	7440-48-4	QCBLK52266-1	11/23/94	12/06/94	14.0	MG/KG		2.5	1
Copper	7440-50-8	QCBLK52266-1	11/23/94	12/06/94	411	MG/KG		2.5	1
Iron	7439-89-6	QCBLK52266-1	11/23/94	12/06/94	36600	MG/KG		12.3	1
Lead	7439-92-1	QCBLK52266-1	11/23/94	12/06/94	418	MG/KG		0.37	1
Magnesium	7439-95-4	QCBLK52266-1	11/23/94	12/06/94	6110	MG/KG		613	1
Manganese	7439-96-5	QCBLK52266-1	11/23/94	12/06/94	576	MG/KG		1.2	1
Nickel	7440-02-0	QCBLK52266-1	11/23/94	12/06/94	106	MG/KG		4.9	1
Potassium	7440-09-7	QCBLK52266-1	11/23/94	12/06/94	3980	MG/KG		613	1
Silver	7440-22-4	QCBLK52266-1	11/23/94	12/06/94	ND	MG/KG		123	5
Sodium	7440-23-5	QCBLK52266-1	11/23/94	12/06/94	2210	MG/KG		123	1
Vanadium	7440-62-2	QCBLK52266-1	11/23/94	12/06/94	87.0	MG/KG		12.3	5
Zinc	7440-66-6	QCBLK52266-1	11/23/94	12/06/94	2560	MG/KG		2.5	1

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Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Project: 135.08

Sample Date : 11/03/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Client ID: SB-17-SS1-2-4

Quanterra ID : 6765-046

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52266-1	11/23/94	12/06/94	27800	MG/KG		28.4	1
Antimony	7440-36-0	QCBLK52266-1	11/23/94	12/06/94	ND	MG/KG		14.2	1
Arsenic	7440-38-2	QCBLK52266-1	11/23/94	12/06/94	18.2	MG/KG		0.43	1
Barium	7440-39-3	QCBLK52266-1	11/23/94	12/06/94	3370	MG/KG		28.4	1
Beryllium	7440-41-7	QCBLK52266-1	11/23/94	12/06/94	2.6	MG/KG		0.099	1
Cadmium	7440-43-9	QCBLK52266-1	11/23/94	12/06/94	20.8	MG/KG		2.8	1
Calcium	7440-70-2	QCBLK52266-1	11/23/94	12/06/94	103000	MG/KG		3550	5
Chromium	7440-47-3	QCBLK52266-1	11/23/94	12/06/94	449	MG/KG		14.2	5
Cobalt	7440-48-4	QCBLK52266-1	11/23/94	12/06/94	13.5	MG/KG		2.8	1
Copper	7440-50-8	QCBLK52266-1	11/23/94	12/06/94	473	MG/KG		2.8	1
Iron	7439-89-6	QCBLK52266-1	11/23/94	12/06/94	39300	MG/KG		14.2	1
Lead	7439-92-1	QCBLK52266-1	11/23/94	12/06/94	526	MG/KG		0.43	1
Magnesium	7439-95-4	QCBLK52266-1	11/23/94	12/06/94	6540	MG/KG		710	1
Manganese	7439-96-5	QCBLK52266-1	11/23/94	12/06/94	590	MG/KG		1.4	1
Nickel	7440-02-0	QCBLK52266-1	11/23/94	12/06/94	123	MG/KG		5.7	1
Potassium	7440-09-7	QCBLK52266-1	11/23/94	12/06/94	3920	MG/KG		710	1
Silver	7440-22-4	QCBLK52266-1	11/23/94	12/06/94	ND	MG/KG		142	5
Sodium	7440-23-5	QCBLK52266-1	11/23/94	12/06/94	2820	MG/KG		142	1
Vanadium	7440-62-2	QCBLK52266-1	11/23/94	12/06/94	101	MG/KG		14.2	5
Zinc	7440-66-6	QCBLK52266-1	11/23/94	12/06/94	3350	MG/KG		2.8	1

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Project: 135.08

Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Sample Date : 11/03/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Client ID: SB-17-SS3-6-8

Quanterra ID : 6765-048

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52266-1	11/23/94	12/06/94	28600	MG/KG		31.8	1
Antimony	7440-36-0	QCBLK52266-1	11/23/94	12/06/94	ND	MG/KG		15.9	1
Arsenic	7440-38-2	QCBLK52266-1	11/23/94	12/06/94	16.6	MG/KG		0.48	1
Barium	7440-39-3	QCBLK52266-1	11/23/94	12/06/94	4680	MG/KG		31.8	1
Beryllium	7440-41-7	QCBLK52266-1	11/23/94	12/06/94	3.5	MG/KG		0.11	1
Cadmium	7440-43-9	QCBLK52266-1	11/23/94	12/06/94	24.6	MG/KG		3.2	1
Calcium	7440-70-2	QCBLK52266-1	11/23/94	12/06/94	67700	MG/KG		794	1
Chromium	7440-47-3	QCBLK52266-1	11/23/94	12/06/94	515	MG/KG		3.2	1
Cobalt	7440-48-4	QCBLK52266-1	11/23/94	12/06/94	16.5	MG/KG		3.2	1
Copper	7440-50-8	QCBLK52266-1	11/23/94	12/06/94	555	MG/KG		3.2	1
Iron	7439-89-6	QCBLK52266-1	11/23/94	12/06/94	44400	MG/KG		15.9	1
Lead	7439-92-1	QCBLK52266-1	11/23/94	12/06/94	541	MG/KG		0.48	1
Magnesium	7439-95-4	QCBLK52266-1	11/23/94	12/06/94	6380	MG/KG		794	1
Manganese	7439-96-5	QCBLK52266-1	11/23/94	12/06/94	636	MG/KG		1.6	1
Nickel	7440-02-0	QCBLK52266-1	11/23/94	12/06/94	137	MG/KG		6.4	1
Potassium	7440-09-7	QCBLK52266-1	11/23/94	12/06/94	4570	MG/KG		794	1
Silver	7440-22-4	QCBLK52266-1	11/23/94	12/06/94	ND	MG/KG		31.8	1
Sodium	7440-23-5	QCBLK52266-1	11/23/94	12/06/94	2600	MG/KG		159	1
Vanadium	7440-62-2	QCBLK52266-1	11/23/94	12/06/94	98.6	MG/KG		3.2	1
Zinc	7440-66-6	QCBLK52266-1	11/23/94	12/06/94	3050	MG/KG		3.2	1



Environmental
Services

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Project: 135.08

Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Sample Date : 11/02/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Client ID: SB-18-SS2-4-6

Quanterra ID : 6765-040

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52264-1	11/23/94	12/06/94	28700	MG/KG		30.8	1
Antimony	7440-36-0	QCBLK52264-1	11/23/94	12/06/94	ND	MG/KG		15.4	1
Arsenic	7440-38-2	QCBLK52264-1	11/23/94	12/06/94	17.2	MG/KG		0.46	1
Barium	7440-39-3	QCBLK52264-1	11/23/94	12/06/94	4590	MG/KG		30.8	1
Beryllium	7440-41-7	QCBLK52264-1	11/23/94	12/06/94	2.7	MG/KG		0.11	1
Cadmium	7440-43-9	QCBLK52264-1	11/23/94	12/06/94	19.4	MG/KG		3.1	1
Calcium	7440-70-2	QCBLK52264-1	11/23/94	12/06/94	80600	MG/KG		770	1
Chromium	7440-47-3	QCBLK52264-1	11/23/94	12/06/94	460	MG/KG		3.1	1
Cobalt	7440-48-4	QCBLK52264-1	11/23/94	12/06/94	16.2	MG/KG		3.1	1
Copper	7440-50-8	QCBLK52264-1	11/23/94	12/06/94	548	MG/KG		3.1	1
Iron	7439-89-6	QCBLK52264-1	11/23/94	12/06/94	41200	MG/KG		15.4	1
Lead	7439-92-1	QCBLK52264-1	11/23/94	12/06/94	496	MG/KG		0.46	1
Magnesium	7439-95-4	QCBLK52264-1	11/23/94	12/06/94	5760	MG/KG		770	1
Manganese	7439-96-5	QCBLK52264-1	11/23/94	12/06/94	608	MG/KG		1.5	1
Nickel	7440-02-0	QCBLK52264-1	11/23/94	12/06/94	138	MG/KG		6.2	1
Potassium	7440-09-7	QCBLK52264-1	11/23/94	12/06/94	4320	MG/KG		770	1
Silver	7440-22-4	QCBLK52264-1	11/23/94	12/06/94	ND	MG/KG		30.8	1
Sodium	7440-23-5	QCBLK52264-1	11/23/94	12/06/94	2310	MG/KG		154	1
Vanadium	7440-62-2	QCBLK52264-1	11/23/94	12/06/94	123	MG/KG		3.1	1
Zinc	7440-66-6	QCBLK52264-1	11/23/94	12/06/94	3360	MG/KG		3.1	1

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Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Project: 135.08

Sample Date : 11/02/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Client ID: SB-18-SS3-6-8

Quanterra ID : 6765-041

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52264-1	11/23/94	12/06/94	27900	MG/KG		31.2	1
Antimony	7440-36-0	QCBLK52264-1	11/23/94	12/06/94	16.3	MG/KG		15.6	1
Arsenic	7440-38-2	QCBLK52264-1	11/23/94	12/06/94	16.6	MG/KG		0.47	1
Barium	7440-39-3	QCBLK52264-1	11/23/94	12/06/94	4450	MG/KG		31.2	1
Beryllium	7440-41-7	QCBLK52264-1	11/23/94	12/06/94	2.6	MG/KG		0.11	1
Cadmium	7440-43-9	QCBLK52264-1	11/23/94	12/06/94	17.4	MG/KG		3.1	1
Calcium	7440-70-2	QCBLK52264-1	11/23/94	12/06/94	101000	MG/KG		3900	5
Chromium	7440-47-3	QCBLK52264-1	11/23/94	12/06/94	453	MG/KG		3.1	1
Cobalt	7440-48-4	QCBLK52264-1	11/23/94	12/06/94	15.5	MG/KG		3.1	1
Copper	7440-50-8	QCBLK52264-1	11/23/94	12/06/94	506	MG/KG		3.1	1
Iron	7439-89-6	QCBLK52264-1	11/23/94	12/06/94	40600	MG/KG		15.6	1
Lead	7439-92-1	QCBLK52264-1	11/23/94	12/06/94	488	MG/KG		0.47	1
Magnesium	7439-95-4	QCBLK52264-1	11/23/94	12/06/94	5640	MG/KG		780	1
Manganese	7439-96-5	QCBLK52264-1	11/23/94	12/06/94	674	MG/KG		1.6	1
Nickel	7440-02-0	QCBLK52264-1	11/23/94	12/06/94	125	MG/KG		6.2	1
Potassium	7440-09-7	QCBLK52264-1	11/23/94	12/06/94	4370	MG/KG		780	1
Silver	7440-22-4	QCBLK52264-1	11/23/94	12/06/94	ND	MG/KG		31.2	1
Sodium	7440-23-5	QCBLK52264-1	11/23/94	12/06/94	2310	MG/KG		156	1
Vanadium	7440-62-2	QCBLK52264-1	11/23/94	12/06/94	121	MG/KG		3.1	1
Zinc	7440-66-6	QCBLK52264-1	11/23/94	12/06/94	3460	MG/KG		3.1	1

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Project: 135.08

Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Sample Date : 11/02/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Client ID: SB-19-SS1-0-2

Quanterra ID : 6765-032

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52264-1	11/23/94	12/06/94	22500	MG/KG		22.0	1
Antimony	7440-36-0	QCBLK52264-1	11/23/94	12/06/94	15.1	MG/KG		11.0	1
Arsenic	7440-38-2	QCBLK52264-1	11/23/94	12/06/94	9.5	MG/KG		0.33	1
Barium	7440-39-3	QCBLK52264-1	11/23/94	12/06/94	2630	MG/KG		22.0	1
Beryllium	7440-41-7	QCBLK52264-1	11/23/94	12/06/94	2.1	MG/KG		0.077	1
Cadmium	7440-43-9	QCBLK52264-1	11/23/94	12/06/94	5.9	MG/KG		2.2	1
Calcium	7440-70-2	QCBLK52264-1	11/23/94	12/06/94	95300	MG/KG		2760	5
Chromium	7440-47-3	QCBLK52264-1	11/23/94	12/06/94	290	MG/KG		11.0	5
Cobalt	7440-48-4	QCBLK52264-1	11/23/94	12/06/94	13.7	MG/KG		2.2	1
Copper	7440-50-8	QCBLK52264-1	11/23/94	12/06/94	346	MG/KG		2.2	1
Iron	7439-89-6	QCBLK52264-1	11/23/94	12/06/94	30500	MG/KG		11.0	1
Lead	7439-92-1	QCBLK52264-1	11/23/94	12/06/94	309	MG/KG		0.33	1
Magnesium	7439-95-4	QCBLK52264-1	11/23/94	12/06/94	5220	MG/KG		551	1
Manganese	7439-96-5	QCBLK52264-1	11/23/94	12/06/94	501	MG/KG		1.1	1
Nickel	7440-02-0	QCBLK52264-1	11/23/94	12/06/94	96.3	MG/KG		4.4	1
Potassium	7440-09-7	QCBLK52264-1	11/23/94	12/06/94	2570	MG/KG		551	1
Silver	7440-22-4	QCBLK52264-1	11/23/94	12/06/94	ND	MG/KG		110	5
Sodium	7440-23-5	QCBLK52264-1	11/23/94	12/06/94	1790	MG/KG		110	1
Vanadium	7440-62-2	QCBLK52264-1	11/23/94	12/06/94	98.4	MG/KG		11.0	5
Zinc	7440-66-6	QCBLK52264-1	11/23/94	12/06/94	1960	MG/KG		2.2	1

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Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Project: 135.08

Sample Date : 11/02/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Client ID: SB-19-SS3-6-8

Quanterra ID : 6765-034

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52264-1	11/23/94	12/06/94	25500	MG/KG		28.2	1
Antimony	7440-36-0	QCBLK52264-1	11/23/94	12/06/94	16.6	MG/KG		14.1	1
Arsenic	7440-38-2	QCBLK52264-1	11/23/94	12/06/94	11.8	MG/KG		0.42	1
Barium	7440-39-3	QCBLK52264-1	11/23/94	12/06/94	3060	MG/KG		28.2	1
Beryllium	7440-41-7	QCBLK52264-1	11/23/94	12/06/94	2.3	MG/KG		0.099	1
Cadmium	7440-43-9	QCBLK52264-1	11/23/94	12/06/94	7.5	MG/KG		2.8	1
Calcium	7440-70-2	QCBLK52264-1	11/23/94	12/06/94	96700	MG/KG		3520	5
Chromium	7440-47-3	QCBLK52264-1	11/23/94	12/06/94	317	MG/KG		2.8	1
Cobalt	7440-48-4	QCBLK52264-1	11/23/94	12/06/94	14.7	MG/KG		2.8	1
Copper	7440-50-8	QCBLK52264-1	11/23/94	12/06/94	387	MG/KG		2.8	1
Iron	7439-89-6	QCBLK52264-1	11/23/94	12/06/94	34400	MG/KG		14.1	1
Lead	7439-92-1	QCBLK52264-1	11/23/94	12/06/94	363	MG/KG		0.42	1
Magnesium	7439-95-4	QCBLK52264-1	11/23/94	12/06/94	6060	MG/KG		704	1
Manganese	7439-96-5	QCBLK52264-1	11/23/94	12/06/94	572	MG/KG		1.4	1
Nickel	7440-02-0	QCBLK52264-1	11/23/94	12/06/94	103	MG/KG		5.6	1
Potassium	7440-09-7	QCBLK52264-1	11/23/94	12/06/94	3320	MG/KG		704	1
Silver	7440-22-4	QCBLK52264-1	11/23/94	12/06/94	ND	MG/KG		28.2	1
Sodium	7440-23-5	QCBLK52264-1	11/23/94	12/06/94	2030	MG/KG		141	1
Vanadium	7440-62-2	QCBLK52264-1	11/23/94	12/06/94	100	MG/KG		2.8	1
Zinc	7440-66-6	QCBLK52264-1	11/23/94	12/06/94	2230	MG/KG		2.8	1

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Project: 135.08

Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Sample Date : 11/02/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Client ID: SB-20-SS1-0-2

Quanterra ID : 6765-029

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52264-1	11/23/94	12/06/94	18200	MG/KG		22.9	1
Antimony	7440-36-0	QCBLK52264-1	11/23/94	12/06/94	12.4	MG/KG		11.5	1
Arsenic	7440-38-2	QCBLK52264-1	11/23/94	12/06/94	10.9	MG/KG		0.34	1
Barium	7440-39-3	QCBLK52264-1	11/23/94	12/06/94	2390	MG/KG		22.9	1
Beryllium	7440-41-7	QCBLK52264-1	11/23/94	12/06/94	1.7	MG/KG		0.080	1
Cadmium	7440-43-9	QCBLK52264-1	11/23/94	12/06/94	10.2	MG/KG		2.3	1
Calcium	7440-70-2	QCBLK52264-1	11/23/94	12/06/94	111000	MG/KG		2860	5
Chromium	7440-47-3	QCBLK52264-1	11/23/94	12/06/94	283	MG/KG		11.5	5
Cobalt	7440-48-4	QCBLK52264-1	11/23/94	12/06/94	10.2	MG/KG		2.3	1
Copper	7440-50-8	QCBLK52264-1	11/23/94	12/06/94	316	MG/KG		2.3	1
Iron	7439-89-6	QCBLK52264-1	11/23/94	12/06/94	30500	MG/KG		11.5	1
Lead	7439-92-1	QCBLK52264-1	11/23/94	12/06/94	431	MG/KG		0.34	1
Magnesium	7439-95-4	QCBLK52264-1	11/23/94	12/06/94	27500	MG/KG		573	1
Manganese	7439-96-5	QCBLK52264-1	11/23/94	12/06/94	410	MG/KG		1.1	1
Nickel	7440-02-0	QCBLK52264-1	11/23/94	12/06/94	75.5	MG/KG		4.6	1
Potassium	7440-09-7	QCBLK52264-1	11/23/94	12/06/94	2540	MG/KG		573	1
Silver	7440-22-4	QCBLK52264-1	11/23/94	12/06/94	ND	MG/KG		115	5
Sodium	7440-23-5	QCBLK52264-1	11/23/94	12/06/94	1540	MG/KG		115	1
Vanadium	7440-62-2	QCBLK52264-1	11/23/94	12/06/94	91.0	MG/KG		11.5	5
Zinc	7440-66-6	QCBLK52264-1	11/23/94	12/06/94	2000	MG/KG		2.3	1

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Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Project: 135.08

Sample Date : 11/02/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Client ID: SB-20-SS3-8-9

Quanterra ID : 6765-031

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52264-1	11/23/94	12/06/94	21800	MG/KG		26.1	1
Antimony	7440-36-0	QCBLK52264-1	11/23/94	12/06/94	14.6	MG/KG		13.0	1
Arsenic	7440-38-2	QCBLK52264-1	11/23/94	12/06/94	23.3	MG/KG		0.39	1
Barium	7440-39-3	QCBLK52264-1	11/23/94	12/06/94	3570	MG/KG		26.1	1
Beryllium	7440-41-7	QCBLK52264-1	11/23/94	12/06/94	1.8	MG/KG		0.091	1
Cadmium	7440-43-9	QCBLK52264-1	11/23/94	12/06/94	12.7	MG/KG		2.6	1
Calcium	7440-70-2	QCBLK52264-1	11/23/94	12/06/94	118000	MG/KG		3260	5
Chromium	7440-47-3	QCBLK52264-1	11/23/94	12/06/94	400	MG/KG		13.0	5
Cobalt	7440-48-4	QCBLK52264-1	11/23/94	12/06/94	11.8	MG/KG		2.6	1
Copper	7440-50-8	QCBLK52264-1	11/23/94	12/06/94	471	MG/KG		2.6	1
Iron	7439-89-6	QCBLK52264-1	11/23/94	12/06/94	34400	MG/KG		13.0	1
Lead	7439-92-1	QCBLK52264-1	11/23/94	12/06/94	432	MG/KG		0.39	1
Magnesium	7439-95-4	QCBLK52264-1	11/23/94	12/06/94	6770	MG/KG		652	1
Manganese	7439-96-5	QCBLK52264-1	11/23/94	12/06/94	527	MG/KG		1.3	1
Nickel	7440-02-0	QCBLK52264-1	11/23/94	12/06/94	114	MG/KG		5.2	1
Potassium	7440-09-7	QCBLK52264-1	11/23/94	12/06/94	2720	MG/KG		652	1
Silver	7440-22-4	QCBLK52264-1	11/23/94	12/06/94	ND	MG/KG		130	5
Sodium	7440-23-5	QCBLK52264-1	11/23/94	12/06/94	2100	MG/KG		130	1
Vanadium	7440-62-2	QCBLK52264-1	11/23/94	12/06/94	94.2	MG/KG		13.0	5
Zinc	7440-66-6	QCBLK52264-1	11/23/94	12/06/94	2320	MG/KG		2.6	1

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Project: 135.08

Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Sample Date : 11/02/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Client ID: SB-20-SS3-8-9

Quanterra ID : 6765-031

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52264-1	11/23/94	12/06/94	21800	MG/KG		26.1	1
Antimony	7440-36-0	QCBLK52264-1	11/23/94	12/06/94	14.6	MG/KG		13.0	1
Arsenic	7440-38-2	QCBLK52264-1	11/23/94	12/06/94	23.3	MG/KG		0.39	1
Barium	7440-39-3	QCBLK52264-1	11/23/94	12/06/94	3570	MG/KG		26.1	1
Beryllium	7440-41-7	QCBLK52264-1	11/23/94	12/06/94	1.8	MG/KG		0.091	1
Cadmium	7440-43-9	QCBLK52264-1	11/23/94	12/06/94	12.7	MG/KG		2.6	1
Calcium	7440-70-2	QCBLK52264-1	11/23/94	12/06/94	118000	MG/KG		3260	5
Chromium	7440-47-3	QCBLK52264-1	11/23/94	12/06/94	400	MG/KG		13.0	5
Cobalt	7440-48-4	QCBLK52264-1	11/23/94	12/06/94	11.8	MG/KG		2.6	1
Copper	7440-50-8	QCBLK52264-1	11/23/94	12/06/94	471	MG/KG		2.6	1
Iron	7439-89-6	QCBLK52264-1	11/23/94	12/06/94	34400	MG/KG		13.0	1
Lead	7439-92-1	QCBLK52264-1	11/23/94	12/06/94	432	MG/KG		0.39	1
Magnesium	7439-95-4	QCBLK52264-1	11/23/94	12/06/94	6770	MG/KG		652	1
Manganese	7439-96-5	QCBLK52264-1	11/23/94	12/06/94	527	MG/KG		1.3	1
Nickel	7440-02-0	QCBLK52264-1	11/23/94	12/06/94	114	MG/KG		5.2	1
Potassium	7440-09-7	QCBLK52264-1	11/23/94	12/06/94	2720	MG/KG		652	1
Silver	7440-22-4	QCBLK52264-1	11/23/94	12/06/94	ND	MG/KG		130	5
Sodium	7440-23-5	QCBLK52264-1	11/23/94	12/06/94	2100	MG/KG		130	1
Vanadium	7440-62-2	QCBLK52264-1	11/23/94	12/06/94	94.2	MG/KG		13.0	5
Zinc	7440-66-6	QCBLK52264-1	11/23/94	12/06/94	2320	MG/KG		2.6	1



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Environmental
Services

Project: 135.08

Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Sample Date : 11/02/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Client ID: SB-22-SS1-2-4

Quanterra ID : 6765-037

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52264-1	11/23/94	12/06/94	23500	MG/KG		27.7	1
Antimony	7440-36-0	QCBLK52264-1	11/23/94	12/06/94	15.2	MG/KG		13.8	1
Arsenic	7440-38-2	QCBLK52264-1	11/23/94	12/06/94	11.8	MG/KG		0.41	1
Barium	7440-39-3	QCBLK52264-1	11/23/94	12/06/94	2720	MG/KG		27.7	1
Beryllium	7440-41-7	QCBLK52264-1	11/23/94	12/06/94	2.1	MG/KG		0.097	1
Cadmium	7440-43-9	QCBLK52264-1	11/23/94	12/06/94	14.4	MG/KG		2.8	1
Calcium	7440-70-2	QCBLK52264-1	11/23/94	12/06/94	93800	MG/KG		3460	5
Chromium	7440-47-3	QCBLK52264-1	11/23/94	12/06/94	363	MG/KG		13.8	5
Cobalt	7440-48-4	QCBLK52264-1	11/23/94	12/06/94	12.9	MG/KG		2.8	1
Copper	7440-50-8	QCBLK52264-1	11/23/94	12/06/94	427	MG/KG		2.8	1
Iron	7439-89-6	QCBLK52264-1	11/23/94	12/06/94	32800	MG/KG		13.8	1
Lead	7439-92-1	QCBLK52264-1	11/23/94	12/06/94	413	MG/KG		0.41	1
Magnesium	7439-95-4	QCBLK52264-1	11/23/94	12/06/94	18400	MG/KG		692	1
Manganese	7439-96-5	QCBLK52264-1	11/23/94	12/06/94	476	MG/KG		1.4	1
Nickel	7440-02-0	QCBLK52264-1	11/23/94	12/06/94	103	MG/KG		5.5	1
Potassium	7440-09-7	QCBLK52264-1	11/23/94	12/06/94	3390	MG/KG		692	1
Silver	7440-22-4	QCBLK52264-1	11/23/94	12/06/94	ND	MG/KG		138	5
Sodium	7440-23-5	QCBLK52264-1	11/23/94	12/06/94	2330	MG/KG		138	1
Vanadium	7440-62-2	QCBLK52264-1	11/23/94	12/06/94	110	MG/KG		13.8	5
Zinc	7440-66-6	QCBLK52264-1	11/23/94	12/06/94	2170	MG/KG		2.8	1

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Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Project: 135.08

Sample Date : 11/02/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Client ID: SB-22-SS2-6-7

Quanterra ID : 6765-038

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52264-1	11/23/94	12/06/94	23800	MG/KG		27.6	1
Antimony	7440-36-0	QCBLK52264-1	11/23/94	12/06/94	15.7	MG/KG		13.8	1
Arsenic	7440-38-2	QCBLK52264-1	11/23/94	12/06/94	10.9	MG/KG		0.41	1
Barium	7440-39-3	QCBLK52264-1	11/23/94	12/06/94	3120	MG/KG		27.6	1
Beryllium	7440-41-7	QCBLK52264-1	11/23/94	12/06/94	2.3	MG/KG		0.096	1
Cadmium	7440-43-9	QCBLK52264-1	11/23/94	12/06/94	11.4	MG/KG		2.8	1
Calcium	7440-70-2	QCBLK52264-1	11/23/94	12/06/94	95900	MG/KG		3450	5
Chromium	7440-47-3	QCBLK52264-1	11/23/94	12/06/94	371	MG/KG		13.8	5
Cobalt	7440-48-4	QCBLK52264-1	11/23/94	12/06/94	13.5	MG/KG		2.8	1
Copper	7440-50-8	QCBLK52264-1	11/23/94	12/06/94	411	MG/KG		2.8	1
Iron	7439-89-6	QCBLK52264-1	11/23/94	12/06/94	33600	MG/KG		13.8	1
Lead	7439-92-1	QCBLK52264-1	11/23/94	12/06/94	509	MG/KG		0.41	1
Magnesium	7439-95-4	QCBLK52264-1	11/23/94	12/06/94	6220	MG/KG		689	1
Manganese	7439-96-5	QCBLK52264-1	11/23/94	12/06/94	496	MG/KG		1.4	1
Nickel	7440-02-0	QCBLK52264-1	11/23/94	12/06/94	97.8	MG/KG		5.5	1
Potassium	7440-09-7	QCBLK52264-1	11/23/94	12/06/94	3590	MG/KG		689	1
Silver	7440-22-4	QCBLK52264-1	11/23/94	12/06/94	ND	MG/KG		138	5
Sodium	7440-23-5	QCBLK52264-1	11/23/94	12/06/94	2270	MG/KG		138	1
Vanadium	7440-62-2	QCBLK52264-1	11/23/94	12/06/94	122	MG/KG		13.8	5
Zinc	7440-66-6	QCBLK52264-1	11/23/94	12/06/94	2220	MG/KG		2.8	1

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Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Project: 135.08

Sample Date : 11/02/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Client ID: SB-23-SS1-2-4

Quanterra ID : 6765-035

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52264-1	11/23/94	12/06/94	26800	MG/KG		24.0	1
Antimony	7440-36-0	QCBLK52264-1	11/23/94	12/06/94	17.0	MG/KG		12.0	1
Arsenic	7440-38-2	QCBLK52264-1	11/23/94	12/06/94	13.4	MG/KG		0.36	1
Barium	7440-39-3	QCBLK52264-1	11/23/94	12/06/94	3310	MG/KG		24.0	1
Beryllium	7440-41-7	QCBLK52264-1	11/23/94	12/06/94	2.5	MG/KG		0.084	1
Cadmium	7440-43-9	QCBLK52264-1	11/23/94	12/06/94	17.0	MG/KG		2.4	1
Calcium	7440-70-2	QCBLK52264-1	11/23/94	12/06/94	89700	MG/KG		3000	5
Chromium	7440-47-3	QCBLK52264-1	11/23/94	12/06/94	431	MG/KG		12.0	5
Cobalt	7440-48-4	QCBLK52264-1	11/23/94	12/06/94	15.2	MG/KG		2.4	1
Copper	7440-50-8	QCBLK52264-1	11/23/94	12/06/94	470	MG/KG		2.4	1
Iron	7439-89-6	QCBLK52264-1	11/23/94	12/06/94	36200	MG/KG		12.0	1
Lead	7439-92-1	QCBLK52264-1	11/23/94	12/06/94	466	MG/KG		0.36	1
Magnesium	7439-95-4	QCBLK52264-1	11/23/94	12/06/94	5510	MG/KG		601	1
Manganese	7439-96-5	QCBLK52264-1	11/23/94	12/06/94	586	MG/KG		1.2	1
Nickel	7440-02-0	QCBLK52264-1	11/23/94	12/06/94	107	MG/KG		4.8	1
Potassium	7440-09-7	QCBLK52264-1	11/23/94	12/06/94	3640	MG/KG		601	1
Silver	7440-22-4	QCBLK52264-1	11/23/94	12/06/94	ND	MG/KG		120	5
Sodium	7440-23-5	QCBLK52264-1	11/23/94	12/06/94	2560	MG/KG		120	1
Vanadium	7440-62-2	QCBLK52264-1	11/23/94	12/06/94	118	MG/KG		12.0	5
Zinc	7440-66-6	QCBLK52264-1	11/23/94	12/06/94	2650	MG/KG		2.4	1



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Environmental
Services

Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Project: 135.08

Sample Date : 11/02/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Client ID: SB-23-SS2-6-8

Quanterra ID : 6765-036

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52264-1	11/23/94	12/06/94	26100	MG/KG		27.1	1
Antimony	7440-36-0	QCBLK52264-1	11/23/94	12/06/94	ND	MG/KG		13.5	1
Arsenic	7440-38-2	QCBLK52264-1	11/23/94	12/06/94	10.3	MG/KG		0.41	1
Barium	7440-39-3	QCBLK52264-1	11/23/94	12/06/94	3440	MG/KG		27.1	1
Beryllium	7440-41-7	QCBLK52264-1	11/23/94	12/06/94	2.3	MG/KG		0.095	1
Cadmium	7440-43-9	QCBLK52264-1	11/23/94	12/06/94	7.1	MG/KG		2.7	1
Calcium	7440-70-2	QCBLK52264-1	11/23/94	12/06/94	81600	MG/KG		3390	5
Chromium	7440-47-3	QCBLK52264-1	11/23/94	12/06/94	347	MG/KG		2.7	1
Cobalt	7440-48-4	QCBLK52264-1	11/23/94	12/06/94	15.0	MG/KG		2.7	1
Copper	7440-50-8	QCBLK52264-1	11/23/94	12/06/94	395	MG/KG		2.7	1
Iron	7439-89-6	QCBLK52264-1	11/23/94	12/06/94	39000	MG/KG		13.5	1
Lead	7439-92-1	QCBLK52264-1	11/23/94	12/06/94	359	MG/KG		0.41	1
Magnesium	7439-95-4	QCBLK52264-1	11/23/94	12/06/94	5930	MG/KG		677	1
Manganese	7439-96-5	QCBLK52264-1	11/23/94	12/06/94	536	MG/KG		1.4	1
Nickel	7440-02-0	QCBLK52264-1	11/23/94	12/06/94	98.2	MG/KG		5.4	1
Potassium	7440-09-7	QCBLK52264-1	11/23/94	12/06/94	3580	MG/KG		677	1
Silver	7440-22-4	QCBLK52264-1	11/23/94	12/06/94	ND	MG/KG		27.1	1
Sodium	7440-23-5	QCBLK52264-1	11/23/94	12/06/94	2020	MG/KG		135	1
Vanadium	7440-62-2	QCBLK52264-1	11/23/94	12/06/94	99.1	MG/KG		2.7	1
Zinc	7440-66-6	QCBLK52264-1	11/23/94	12/06/94	2130	MG/KG		2.7	1

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Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Project: 135.08

Sample Date : 11/03/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Client ID: SB-24-SS1-2-4

Quanterra ID : 6765-051

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52266-1	11/23/94	12/06/94	29500	MG/KG		27.7	1
Antimony	7440-36-0	QCBLK52266-1	11/23/94	12/06/94	ND	MG/KG		13.8	1
Arsenic	7440-38-2	QCBLK52266-1	11/23/94	12/06/94	11.3	MG/KG		0.42	1
Barium	7440-39-3	QCBLK52266-1	11/23/94	12/06/94	3330	MG/KG		27.7	1
Beryllium	7440-41-7	QCBLK52266-1	11/23/94	12/06/94	2.6	MG/KG		0.097	1
Cadmium	7440-43-9	QCBLK52266-1	11/23/94	12/06/94	8.4	MG/KG		2.8	1
Calcium	7440-70-2	QCBLK52266-1	11/23/94	12/06/94	83400	MG/KG		3460	5
Chromium	7440-47-3	QCBLK52266-1	11/23/94	12/06/94	400	MG/KG		2.8	1
Cobalt	7440-48-4	QCBLK52266-1	11/23/94	12/06/94	14.7	MG/KG		2.8	1
Copper	7440-50-8	QCBLK52266-1	11/23/94	12/06/94	440	MG/KG		2.8	1
Iron	7439-89-6	QCBLK52266-1	11/23/94	12/06/94	40200	MG/KG		13.8	1
Lead	7439-92-1	QCBLK52266-1	11/23/94	12/06/94	385	MG/KG		0.42	1
Magnesium	7439-95-4	QCBLK52266-1	11/23/94	12/06/94	5860	MG/KG		692	1
Manganese	7439-96-5	QCBLK52266-1	11/23/94	12/06/94	558	MG/KG		1.4	1
Nickel	7440-02-0	QCBLK52266-1	11/23/94	12/06/94	116	MG/KG		5.5	1
Potassium	7440-09-7	QCBLK52266-1	11/23/94	12/06/94	4810	MG/KG		692	1
Silver	7440-22-4	QCBLK52266-1	11/23/94	12/06/94	ND	MG/KG		27.7	1
Sodium	7440-23-5	QCBLK52266-1	11/23/94	12/06/94	2330	MG/KG		138	1
Vanadium	7440-62-2	QCBLK52266-1	11/23/94	12/06/94	111	MG/KG		2.8	1
Zinc	7440-66-6	QCBLK52266-1	11/23/94	12/06/94	2350	MG/KG		2.8	1



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Environmental
Services

Project: 135.08

Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Sample Date : 11/03/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Client ID: SB-24-SS2-6-8

Quanterra ID : 6765-052

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52266-1	11/23/94	12/06/94	31200	MG/KG		30.3	1
Antimony	7440-36-0	QCBLK52266-1	11/23/94	12/06/94	ND	MG/KG		15.2	1
Arsenic	7440-38-2	QCBLK52266-1	11/23/94	12/06/94	11.5	MG/KG		0.46	1
Barium	7440-39-3	QCBLK52266-1	11/23/94	12/06/94	3270	MG/KG		30.3	1
Beryllium	7440-41-7	QCBLK52266-1	11/23/94	12/06/94	2.8	MG/KG		0.11	1
Cadmium	7440-43-9	QCBLK52266-1	11/23/94	12/06/94	10.2	MG/KG		3.0	1
Calcium	7440-70-2	QCBLK52266-1	11/23/94	12/06/94	88800	MG/KG		3790	5
Chromium	7440-47-3	QCBLK52266-1	11/23/94	12/06/94	421	MG/KG		3.0	1
Cobalt	7440-48-4	QCBLK52266-1	11/23/94	12/06/94	15.4	MG/KG		3.0	1
Copper	7440-50-8	QCBLK52266-1	11/23/94	12/06/94	465	MG/KG		3.0	1
Iron	7439-89-6	QCBLK52266-1	11/23/94	12/06/94	42400	MG/KG		15.2	1
Lead	7439-92-1	QCBLK52266-1	11/23/94	12/06/94	439	MG/KG		0.46	1
Magnesium	7439-95-4	QCBLK52266-1	11/23/94	12/06/94	6530	MG/KG		759	1
Manganese	7439-96-5	QCBLK52266-1	11/23/94	12/06/94	609	MG/KG		1.5	1
Nickel	7440-02-0	QCBLK52266-1	11/23/94	12/06/94	124	MG/KG		6.1	1
Potassium	7440-09-7	QCBLK52266-1	11/23/94	12/06/94	4650	MG/KG		759	1
Silver	7440-22-4	QCBLK52266-1	11/23/94	12/06/94	ND	MG/KG		30.3	1
Sodium	7440-23-5	QCBLK52266-1	11/23/94	12/06/94	2560	MG/KG		152	1
Vanadium	7440-62-2	QCBLK52266-1	11/23/94	12/06/94	109	MG/KG		3.0	1
Zinc	7440-66-6	QCBLK52266-1	11/23/94	12/06/94	2620	MG/KG		3.0	1



Environmental
Services

Engineering Science, Inc.
400 Woods Mill Road
Suite 330
Chesterfield, MO 63017

Project: 135.08

Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Sample Date : 11/03/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Client ID: SB-25-SS1-2-4

Quanterra ID : 6765-049

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52266-1	11/23/94	12/06/94	28800	MG/KG		26.1	1
Antimony	7440-36-0	QCBLK52266-1	11/23/94	12/06/94	13.5	MG/KG		13.1	1
Arsenic	7440-38-2	QCBLK52266-1	11/23/94	12/06/94	11.5	MG/KG		0.39	1
Barium	7440-39-3	QCBLK52266-1	11/23/94	12/06/94	3070	MG/KG		26.1	1
Beryllium	7440-41-7	QCBLK52266-1	11/23/94	12/06/94	2.5	MG/KG		0.091	1
Cadmium	7440-43-9	QCBLK52266-1	11/23/94	12/06/94	8.9	MG/KG		2.6	1
Calcium	7440-70-2	QCBLK52266-1	11/23/94	12/06/94	89200	MG/KG		3260	5
Chromium	7440-47-3	QCBLK52266-1	11/23/94	12/06/94	414	MG/KG		13.1	5
Cobalt	7440-48-4	QCBLK52266-1	11/23/94	12/06/94	14.7	MG/KG		2.6	1
Copper	7440-50-8	QCBLK52266-1	11/23/94	12/06/94	417	MG/KG		2.6	1
Iron	7439-89-6	QCBLK52266-1	11/23/94	12/06/94	38000	MG/KG		13.1	1
Lead	7439-92-1	QCBLK52266-1	11/23/94	12/06/94	380	MG/KG		0.39	1
Magnesium	7439-95-4	QCBLK52266-1	11/23/94	12/06/94	5490	MG/KG		653	1
Manganese	7439-96-5	QCBLK52266-1	11/23/94	12/06/94	544	MG/KG		1.3	1
Nickel	7440-02-0	QCBLK52266-1	11/23/94	12/06/94	106	MG/KG		5.2	1
Potassium	7440-09-7	QCBLK52266-1	11/23/94	12/06/94	4300	MG/KG		653	1
Silver	7440-22-4	QCBLK52266-1	11/23/94	12/06/94	ND	MG/KG		131	5
Sodium	7440-23-5	QCBLK52266-1	11/23/94	12/06/94	2560	MG/KG		131	1
Vanadium	7440-62-2	QCBLK52266-1	11/23/94	12/06/94	110	MG/KG		13.1	5
Zinc	7440-66-6	QCBLK52266-1	11/23/94	12/06/94	2660	MG/KG		2.6	1



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Environmental
Services

Project: 135.08

Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Sample Date : 11/03/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Client ID: SB-25-SS2-6-8

Quanterra ID : 6765-050

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52266-1	11/23/94	12/06/94	18300	MG/KG		27.5	1
Antimony	7440-36-0	QCBLK52266-1	11/23/94	12/06/94	ND	MG/KG		13.8	1
Arsenic	7440-38-2	QCBLK52266-1	11/23/94	12/06/94	14.3	MG/KG		0.41	1
Barium	7440-39-3	QCBLK52266-1	11/23/94	12/06/94	1920	MG/KG		27.5	1
Beryllium	7440-41-7	QCBLK52266-1	11/23/94	12/06/94	1.7	MG/KG		0.096	1
Cadmium	7440-43-9	QCBLK52266-1	11/23/94	12/06/94	7.0	MG/KG		2.8	1
Calcium	7440-70-2	QCBLK52266-1	11/23/94	12/06/94	57600	MG/KG		688	1
Chromium	7440-47-3	QCBLK52266-1	11/23/94	12/06/94	236	MG/KG		2.8	1
Cobalt	7440-48-4	QCBLK52266-1	11/23/94	12/06/94	10.7	MG/KG		2.8	1
Copper	7440-50-8	QCBLK52266-1	11/23/94	12/06/94	310	MG/KG		2.8	1
Iron	7439-89-6	QCBLK52266-1	11/23/94	12/06/94	31800	MG/KG		13.8	1
Lead	7439-92-1	QCBLK52266-1	11/23/94	12/06/94	414	MG/KG		0.41	1
Magnesium	7439-95-4	QCBLK52266-1	11/23/94	12/06/94	4210	MG/KG		688	1
Manganese	7439-96-5	QCBLK52266-1	11/23/94	12/06/94	424	MG/KG		1.4	1
Nickel	7440-02-0	QCBLK52266-1	11/23/94	12/06/94	80.2	MG/KG		5.5	1
Potassium	7440-09-7	QCBLK52266-1	11/23/94	12/06/94	2650	MG/KG		688	1
Silver	7440-22-4	QCBLK52266-1	11/23/94	12/06/94	ND	MG/KG		27.5	1
Sodium	7440-23-5	QCBLK52266-1	11/23/94	12/06/94	1570	MG/KG		138	1
Vanadium	7440-62-2	QCBLK52266-1	11/23/94	12/06/94	59.0	MG/KG		2.8	1
Zinc	7440-66-6	QCBLK52266-1	11/23/94	12/06/94	1550	MG/KG		2.8	1



Environmental
Services

Engineering Science, Inc.
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Suite 330
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Project: 135.08

Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Sample Date : 11/03/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Client ID: SB-26-SS1-2-4

Quanterra ID : 6765-059

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52268-1	11/23/94	12/06/94	29500	MG/KG		27.7	1
Antimony	7440-36-0	QCBLK52268-1	11/23/94	12/06/94	14.2	MG/KG		13.9	1
Arsenic	7440-38-2	QCBLK52268-1	11/23/94	12/07/94	11.1	MG/KG		0.42	1
Barium	7440-39-3	QCBLK52268-1	11/23/94	12/06/94	4260	MG/KG		27.7	1
Beryllium	7440-41-7	QCBLK52268-1	11/23/94	12/06/94	2.6	MG/KG		0.097	1
Cadmium	7440-43-9	QCBLK52268-1	11/23/94	12/06/94	10.4	MG/KG		2.8	1
Calcium	7440-70-2	QCBLK52268-1	11/23/94	12/06/94	70700	MG/KG		693	1
Chromium	7440-47-3	QCBLK52268-1	11/23/94	12/06/94	446	MG/KG		2.8	1
Cobalt	7440-48-4	QCBLK52268-1	11/23/94	12/06/94	15.7	MG/KG		2.8	1
Copper	7440-50-8	QCBLK52268-1	11/23/94	12/06/94	474	MG/KG		2.8	1
Iron	7439-89-6	QCBLK52268-1	11/23/94	12/06/94	41900	MG/KG		13.9	1
Lead	7439-92-1	QCBLK52268-1	11/23/94	12/07/94	444	MG/KG		0.42	1
Magnesium	7439-95-4	QCBLK52268-1	11/23/94	12/06/94	5430	MG/KG		693	1
Manganese	7439-96-5	QCBLK52268-1	11/23/94	12/06/94	542	MG/KG		1.4	1
Nickel	7440-02-0	QCBLK52268-1	11/23/94	12/06/94	118	MG/KG		5.5	1
Potassium	7440-09-7	QCBLK52268-1	11/23/94	12/06/94	4310	MG/KG		693	1
Silver	7440-22-4	QCBLK52268-1	11/23/94	12/06/94	ND	MG/KG		27.7	1
Sodium	7440-23-5	QCBLK52268-1	11/23/94	12/06/94	2370	MG/KG		139	1
Vanadium	7440-62-2	QCBLK52268-1	11/23/94	12/06/94	120	MG/KG		2.8	1
Zinc	7440-66-6	QCBLK52268-1	11/23/94	12/06/94	2910	MG/KG		2.8	1



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Environmental
Services

Project: 135.08

Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Sample Date : 11/03/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Client ID: SB-26-SS2-6-8

Quanterra ID : 6765-060

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52268-1	11/23/94	12/06/94	30900	MG/KG		28.9	1
Antimony	7440-36-0	QCBLK52268-1	11/23/94	12/06/94	ND	MG/KG		14.5	1
Arsenic	7440-38-2	QCBLK52268-1	11/23/94	12/07/94	12.0	MG/KG		0.43	1
Barium	7440-39-3	QCBLK52268-1	11/23/94	12/06/94	3270	MG/KG		28.9	1
Beryllium	7440-41-7	QCBLK52268-1	11/23/94	12/06/94	2.7	MG/KG		0.10	1
Cadmium	7440-43-9	QCBLK52268-1	11/23/94	12/06/94	10	MG/KG		2.9	1
Calcium	7440-70-2	QCBLK52268-1	11/23/94	12/06/94	82300	MG/KG		3610	5
Chromium	7440-47-3	QCBLK52268-1	11/23/94	12/06/94	428	MG/KG		2.9	1
Cobalt	7440-48-4	QCBLK52268-1	11/23/94	12/06/94	15.9	MG/KG		2.9	1
Copper	7440-50-8	QCBLK52268-1	11/23/94	12/06/94	457	MG/KG		2.9	1
Iron	7439-89-6	QCBLK52268-1	11/23/94	12/06/94	42200	MG/KG		14.5	1
Lead	7439-92-1	QCBLK52268-1	11/23/94	12/07/94	453	MG/KG		0.43	1
Magnesium	7439-95-4	QCBLK52268-1	11/23/94	12/06/94	5830	MG/KG		723	1
Manganese	7439-96-5	QCBLK52268-1	11/23/94	12/06/94	549	MG/KG		1.4	1
Nickel	7440-02-0	QCBLK52268-1	11/23/94	12/06/94	116	MG/KG		5.8	1
Potassium	7440-09-7	QCBLK52268-1	11/23/94	12/06/94	4680	MG/KG		723	1
Silver	7440-22-4	QCBLK52268-1	11/23/94	12/06/94	ND	MG/KG		28.9	1
Sodium	7440-23-5	QCBLK52268-1	11/23/94	12/06/94	2450	MG/KG		145	1
Vanadium	7440-62-2	QCBLK52268-1	11/23/94	12/06/94	111	MG/KG		2.9	1
Zinc	7440-66-6	QCBLK52268-1	11/23/94	12/06/94	2820	MG/KG		2.9	1

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Project: 135.08

Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Sample Date : 11/03/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Client ID: SB-27-SS1-2-4

Quanterra ID : 6765-053

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52266-1	11/23/94	12/06/94	29500	MG/KG		22.4	1
Antimony	7440-36-0	QCBLK52266-1	11/23/94	12/06/94	ND	MG/KG		11.2	1
Arsenic	7440-38-2	QCBLK52266-1	11/23/94	12/06/94	10.3	MG/KG		0.34	1
Barium	7440-39-3	QCBLK52266-1	11/23/94	12/06/94	3260	MG/KG		22.4	1
Beryllium	7440-41-7	QCBLK52266-1	11/23/94	12/06/94	2.4	MG/KG		0.079	1
Cadmium	7440-43-9	QCBLK52266-1	11/23/94	12/06/94	7.6	MG/KG		2.2	1
Calcium	7440-70-2	QCBLK52266-1	11/23/94	12/06/94	89600	MG/KG		2800	5
Chromium	7440-47-3	QCBLK52266-1	11/23/94	12/06/94	428	MG/KG		11.2	5
Cobalt	7440-48-4	QCBLK52266-1	11/23/94	12/06/94	13.4	MG/KG		2.2	1
Copper	7440-50-8	QCBLK52266-1	11/23/94	12/06/94	419	MG/KG		2.2	1
Iron	7439-89-6	QCBLK52266-1	11/23/94	12/06/94	39700	MG/KG		11.2	1
Lead	7439-92-1	QCBLK52266-1	11/23/94	12/06/94	361	MG/KG		0.34	1
Magnesium	7439-95-4	QCBLK52266-1	11/23/94	12/06/94	5870	MG/KG		561	1
Manganese	7439-96-5	QCBLK52266-1	11/23/94	12/06/94	553	MG/KG		1.1	1
Nickel	7440-02-0	QCBLK52266-1	11/23/94	12/06/94	114	MG/KG		4.5	1
Potassium	7440-09-7	QCBLK52266-1	11/23/94	12/06/94	4380	MG/KG		561	1
Silver	7440-22-4	QCBLK52266-1	11/23/94	12/06/94	ND	MG/KG		112	5
Sodium	7440-23-5	QCBLK52266-1	11/23/94	12/06/94	2410	MG/KG		112	1
Vanadium	7440-62-2	QCBLK52266-1	11/23/94	12/06/94	121	MG/KG		11.2	5
Zinc	7440-66-6	QCBLK52266-1	11/23/94	12/06/94	2470	MG/KG		2.2	1

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Project: 135.08

Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Sample Date : 11/03/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Client ID: SB-27-SS2-6-8

Quanterra ID : 6765-054

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52266-1	11/23/94	12/06/94	28200 MG/KG		27.4	1
Antimony	7440-36-0	QCBLK52266-1	11/23/94	12/06/94	ND MG/KG		13.7	1
Arsenic	7440-38-2	QCBLK52266-1	11/23/94	12/06/94	10.3 MG/KG		0.41	1
Barium	7440-39-3	QCBLK52266-1	11/23/94	12/06/94	3250 MG/KG		27.4	1
Beryllium	7440-41-7	QCBLK52266-1	11/23/94	12/06/94	2.4 MG/KG		0.096	1
Cadmium	7440-43-9	QCBLK52266-1	11/23/94	12/06/94	7.1 MG/KG		2.7	1
Calcium	7440-70-2	QCBLK52266-1	11/23/94	12/06/94	84600 MG/KG		3430	5
Chromium	7440-47-3	QCBLK52266-1	11/23/94	12/06/94	347 MG/KG		2.7	1
Cobalt	7440-48-4	QCBLK52266-1	11/23/94	12/06/94	13.6 MG/KG		2.7	1
Copper	7440-50-8	QCBLK52266-1	11/23/94	12/06/94	416 MG/KG		2.7	1
Iron	7439-89-6	QCBLK52266-1	11/23/94	12/06/94	35800 MG/KG		13.7	1
Lead	7439-92-1	QCBLK52266-1	11/23/94	12/06/94	338 MG/KG		0.41	1
Magnesium	7439-95-4	QCBLK52266-1	11/23/94	12/06/94	5750 MG/KG		685	1
Manganese	7439-96-5	QCBLK52266-1	11/23/94	12/06/94	496 MG/KG		1.4	1
Nickel	7440-02-0	QCBLK52266-1	11/23/94	12/06/94	98.3 MG/KG		5.5	1
Potassium	7440-09-7	QCBLK52266-1	11/23/94	12/06/94	4210 MG/KG		685	1
Silver	7440-22-4	QCBLK52266-1	11/23/94	12/06/94	ND MG/KG		27.4	1
Sodium	7440-23-5	QCBLK52266-1	11/23/94	12/06/94	2550 MG/KG		137	1
Vanadium	7440-62-2	QCBLK52266-1	11/23/94	12/06/94	107 MG/KG		2.7	1
Zinc	7440-66-6	QCBLK52266-1	11/23/94	12/06/94	2250 MG/KG		2.7	1

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Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Project: 135.08

Sample Date : 11/03/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Client ID: SB-28-SS1-2-4

Quanterra ID : 6765-057

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52266-1	11/23/94	12/06/94	26000	MG/KG		28.0	1
Antimony	7440-36-0	QCBLK52266-1	11/23/94	12/06/94	11.1	MG/KG		14.0	1
Arsenic	7440-38-2	QCBLK52266-1	11/23/94	12/06/94	ND	MG/KG		0.42	1
Barium	7440-39-3	QCBLK52266-1	11/23/94	12/06/94	6100	MG/KG		28.0	1
Beryllium	7440-41-7	QCBLK52266-1	11/23/94	12/06/94	2.5	MG/KG		0.098	1
Cadmium	7440-43-9	QCBLK52266-1	11/23/94	12/06/94	19.6	MG/KG		2.8	1
Calcium	7440-70-2	QCBLK52266-1	11/23/94	12/06/94	63300	MG/KG		700	1
Chromium	7440-47-3	QCBLK52266-1	11/23/94	12/06/94	526	MG/KG		2.8	1
Cobalt	7440-48-4	QCBLK52266-1	11/23/94	12/06/94	14.0	MG/KG		2.8	1
Copper	7440-50-8	QCBLK52266-1	11/23/94	12/06/94	524	MG/KG		2.8	1
Iron	7439-89-6	QCBLK52266-1	11/23/94	12/06/94	41800	MG/KG		14.0	1
Lead	7439-92-1	QCBLK52266-1	11/23/94	12/06/94	553	MG/KG		0.42	1
Magnesium	7439-95-4	QCBLK52266-1	11/23/94	12/06/94	5050	MG/KG		700	1
Manganese	7439-96-5	QCBLK52266-1	11/23/94	12/06/94	545	MG/KG		1.4	1
Nickel	7440-02-0	QCBLK52266-1	11/23/94	12/06/94	116	MG/KG		5.6	1
Potassium	7440-09-7	QCBLK52266-1	11/23/94	12/06/94	3820	MG/KG		700	1
Silver	7440-22-4	QCBLK52266-1	11/23/94	12/06/94	19.1	MG/KG		28.0	1
Sodium	7440-23-5	QCBLK52266-1	11/23/94	12/06/94	2190	MG/KG		140	1
Vanadium	7440-62-2	QCBLK52266-1	11/23/94	12/06/94	142	MG/KG		2.8	1
Zinc	7440-66-6	QCBLK52266-1	11/23/94	12/06/94	3980	MG/KG		2.8	1

Engineering Science, Inc.
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Suite 330
Chesterfield, MO 63017

Project: 135.08

Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Sample Date : 11/03/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Client ID: SB-28-SS2-6-8

Quanterra ID : 6765-058

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52268-1	11/23/94	12/06/94	27600	MG/KG		30.5	1
Antimony	7440-36-0	QCBLK52268-1	11/23/94	12/06/94	ND	MG/KG		15.2	1
Arsenic	7440-38-2	QCBLK52268-1	11/23/94	12/07/94	11.6	MG/KG		0.46	1
Barium	7440-39-3	QCBLK52268-1	11/23/94	12/06/94	2380	MG/KG		30.5	1
Beryllium	7440-41-7	QCBLK52268-1	11/23/94	12/06/94	2.5	MG/KG		0.11	1
Cadmium	7440-43-9	QCBLK52268-1	11/23/94	12/06/94	16.1	MG/KG		3.0	1
Calcium	7440-70-2	QCBLK52268-1	11/23/94	12/06/94	68000	MG/KG		762	1
Chromium	7440-47-3	QCBLK52268-1	11/23/94	12/06/94	376	MG/KG		3.0	1
Cobalt	7440-48-4	QCBLK52268-1	11/23/94	12/06/94	13.6	MG/KG		3.0	1
Copper	7440-50-8	QCBLK52268-1	11/23/94	12/06/94	411	MG/KG		3.0	1
Iron	7439-89-6	QCBLK52268-1	11/23/94	12/06/94	37700	MG/KG		15.2	1
Lead	7439-92-1	QCBLK52268-1	11/23/94	12/07/94	447	MG/KG		0.46	1
Magnesium	7439-95-4	QCBLK52268-1	11/23/94	12/06/94	5370	MG/KG		762	1
Manganese	7439-96-5	QCBLK52268-1	11/23/94	12/06/94	481	MG/KG		1.5	1
Nickel	7440-02-0	QCBLK52268-1	11/23/94	12/06/94	108	MG/KG		6.1	1
Potassium	7440-09-7	QCBLK52268-1	11/23/94	12/06/94	4850	MG/KG		762	1
Silver	7440-22-4	QCBLK52268-1	11/23/94	12/06/94	ND	MG/KG		30.5	1
Sodium	7440-23-5	QCBLK52268-1	11/23/94	12/06/94	2730	MG/KG		152	1
Vanadium	7440-62-2	QCBLK52268-1	11/23/94	12/06/94	89.3	MG/KG		3.0	1
Zinc	7440-66-6	QCBLK52268-1	11/23/94	12/06/94	2880	MG/KG		3.0	1

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Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Project: 135.08

Sample Date : 11/03/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Client ID: SB-29-SS1-2-4

Quanterra ID : 6765-055

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52266-1	11/23/94	12/06/94	28100	MG/KG		24.6	1
Antimony	7440-36-0	QCBLK52266-1	11/23/94	12/06/94	ND	MG/KG		12.3	1
Arsenic	7440-38-2	QCBLK52266-1	11/23/94	12/06/94	10.1	MG/KG		0.37	1
Barium	7440-39-3	QCBLK52266-1	11/23/94	12/06/94	2840	MG/KG		24.6	1
Beryllium	7440-41-7	QCBLK52266-1	11/23/94	12/06/94	2.4	MG/KG		0.086	1
Cadmium	7440-43-9	QCBLK52266-1	11/23/94	12/06/94	8.2	MG/KG		2.5	1
Calcium	7440-70-2	QCBLK52266-1	11/23/94	12/06/94	80900	MG/KG		3070	5
Chromium	7440-47-3	QCBLK52266-1	11/23/94	12/06/94	331	MG/KG		2.5	1
Cobalt	7440-48-4	QCBLK52266-1	11/23/94	12/06/94	14.0	MG/KG		2.5	1
Copper	7440-50-8	QCBLK52266-1	11/23/94	12/06/94	395	MG/KG		2.5	1
Iron	7439-89-6	QCBLK52266-1	11/23/94	12/06/94	35900	MG/KG		12.3	1
Lead	7439-92-1	QCBLK52266-1	11/23/94	12/06/94	378	MG/KG		0.37	1
Magnesium	7439-95-4	QCBLK52266-1	11/23/94	12/06/94	5140	MG/KG		614	1
Manganese	7439-96-5	QCBLK52266-1	11/23/94	12/06/94	496	MG/KG		1.2	1
Nickel	7440-02-0	QCBLK52266-1	11/23/94	12/06/94	110	MG/KG		4.9	1
Potassium	7440-09-7	QCBLK52266-1	11/23/94	12/06/94	3880	MG/KG		614	1
Silver	7440-22-4	QCBLK52266-1	11/23/94	12/06/94	ND	MG/KG		24.6	1
Sodium	7440-23-5	QCBLK52266-1	11/23/94	12/06/94	2140	MG/KG		123	1
Vanadium	7440-62-2	QCBLK52266-1	11/23/94	12/06/94	101	MG/KG		2.5	1
Zinc	7440-66-6	QCBLK52266-1	11/23/94	12/06/94	2190	MG/KG		2.5	1

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Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Project: 135.08

Sample Date : 11/03/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Client ID: SB-29-SS2-4-6

Quanterra ID : 6765-056

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52266-1	11/23/94	12/06/94	28700	MG/KG		26.8	1
Antimony	7440-36-0	QCBLK52266-1	11/23/94	12/06/94	11.1	MG/KG		13.4	1
Arsenic	7440-38-2	QCBLK52266-1	11/23/94	12/06/94	ND	MG/KG		0.40	1
Barium	7440-39-3	QCBLK52266-1	11/23/94	12/06/94	2950	MG/KG		26.8	1
Beryllium	7440-41-7	QCBLK52266-1	11/23/94	12/06/94	2.5	MG/KG		0.094	1
Cadmium	7440-43-9	QCBLK52266-1	11/23/94	12/06/94	14.8	KG/KG		2.7	1
Calcium	7440-70-2	QCBLK52266-1	11/23/94	12/06/94	67200	MG/KG		670	1
Chromium	7440-47-3	QCBLK52266-1	11/23/94	12/06/94	393	MG/KG		2.7	1
Cobalt	7440-48-4	QCBLK52266-1	11/23/94	12/06/94	13.5	MG/KG		2.7	1
Copper	7440-50-8	QCBLK52266-1	11/23/94	12/06/94	481	MG/KG		2.7	1
Iron	7439-89-6	QCBLK52266-1	11/23/94	12/06/94	36300	MG/KG		13.4	1
Lead	7439-92-1	QCBLK52266-1	11/23/94	12/06/94	480	MG/KG		0.40	1
Magnesium	7439-95-4	QCBLK52266-1	11/23/94	12/06/94	5170	MG/KG		670	1
Manganese	7439-96-5	QCBLK52266-1	11/23/94	12/06/94	480	MG/KG		1.3	1
Nickel	7440-02-0	QCBLK52266-1	11/23/94	12/06/94	122	MG/KG		5.4	1
Potassium	7440-09-7	QCBLK52266-1	11/23/94	12/06/94	4540	MG/KG		670	1
Silver	7440-22-4	QCBLK52266-1	11/23/94	12/06/94	16.7	MG/KG		26.8	1
Sodium	7440-23-5	QCBLK52266-1	11/23/94	12/06/94	2470	MG/KG		134	1
Vanadium	7440-62-2	QCBLK52266-1	11/23/94	12/06/94	108	MG/KG		2.7	1
Zinc	7440-66-6	QCBLK52266-1	11/23/94	12/06/94	2310	MG/KG		2.7	1

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Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Project: 135.08

Sample Date : 11/03/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Client ID: SB-30-SS1-2-4

Quanterra ID : 6765-065

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52268-1	11/23/94	12/06/94	29800	MG/KG		25.8	1
Antimony	7440-36-0	QCBLK52268-1	11/23/94	12/06/94	ND	MG/KG		12.9	1
Arsenic	7440-38-2	QCBLK52268-1	11/23/94	12/07/94	12.8	MG/KG		0.39	1
Barium	7440-39-3	QCBLK52268-1	11/23/94	12/06/94	3210	MG/KG		25.8	1
Beryllium	7440-41-7	QCBLK52268-1	11/23/94	12/06/94	2.6	MG/KG		0.090	1
Cadmium	7440-43-9	QCBLK52268-1	11/23/94	12/06/94	13.5	MG/KG		2.6	1
Calcium	7440-70-2	QCBLK52268-1	11/23/94	12/06/94	77200	MG/KG		3230	5
Chromium	7440-47-3	QCBLK52268-1	11/23/94	12/06/94	381	MG/KG		2.6	1
Cobalt	7440-48-4	QCBLK52268-1	11/23/94	12/06/94	15.0	MG/KG		2.6	1
Copper	7440-50-8	QCBLK52268-1	11/23/94	12/06/94	462	MG/KG		2.6	1
Iron	7439-89-6	QCBLK52268-1	11/23/94	12/06/94	39000	MG/KG		12.9	1
Lead	7439-92-1	QCBLK52268-1	11/23/94	12/07/94	487	MG/KG		0.39	1
Magnesium	7439-95-4	QCBLK52268-1	11/23/94	12/06/94	5680	MG/KG		645	1
Manganese	7439-96-5	QCBLK52268-1	11/23/94	12/06/94	550	MG/KG		1.3	1
Nickel	7440-02-0	QCBLK52268-1	11/23/94	12/06/94	113	MG/KG		5.2	1
Potassium	7440-09-7	QCBLK52268-1	11/23/94	12/06/94	4950	MG/KG		645	1
Silver	7440-22-4	QCBLK52268-1	11/23/94	12/06/94	ND	MG/KG		25.8	1
Sodium	7440-23-5	QCBLK52268-1	11/23/94	12/06/94	2380	MG/KG		129	1
Vanadium	7440-62-2	QCBLK52268-1	11/23/94	12/06/94	105	MG/KG		2.6	1
Zinc	7440-66-6	QCBLK52268-1	11/23/94	12/06/94	2610	MG/KG		2.6	1

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Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Project: 135.08

Sample Date : 11/03/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Client ID: SB-30-SS2-6-8

Quanterra ID : 6765-066

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QC8LK52268-1	11/23/94	12/06/94	33200	MG/KG		28.4	1
Antimony	7440-36-0	QC8LK52268-1	11/23/94	12/06/94	ND	MG/KG		14.2	1
Arsenic	7440-38-2	QC8LK52268-1	11/23/94	12/07/94	12.9	MG/KG		0.43	1
Barium	7440-39-3	QC8LK52268-1	11/23/94	12/06/94	3860	MG/KG		28.4	1
Beryllium	7440-41-7	QC8LK52268-1	11/23/94	12/06/94	2.9	MG/KG		0.10	1
Cadmium	7440-43-9	QC8LK52268-1	11/23/94	12/06/94	16.3	MG/KG		2.8	1
Calcium	7440-70-2	QC8LK52268-1	11/23/94	12/07/94	82400	MG/KG		3560	5
Chromium	7440-47-3	QC8LK52268-1	11/23/94	12/06/94	490	MG/KG		2.8	1
Cobalt	7440-48-4	QC8LK52268-1	11/23/94	12/06/94	16.2	MG/KG		2.8	1
Copper	7440-50-8	QC8LK52268-1	11/23/94	12/06/94	521	MG/KG		2.8	1
Iron	7439-89-6	QC8LK52268-1	11/23/94	12/06/94	45100	MG/KG		14.2	1
Lead	7439-92-1	QC8LK52268-1	11/23/94	12/07/94	487	MG/KG		0.43	1
Magnesium	7439-95-4	QC8LK52268-1	11/23/94	12/06/94	6910	MG/KG		711	1
Manganese	7439-96-5	QC8LK52268-1	11/23/94	12/06/94	643	MG/KG		1.4	1
Nickel	7440-02-0	QC8LK52268-1	11/23/94	12/06/94	132	MG/KG		5.7	1
Potassium	7440-09-7	QC8LK52268-1	11/23/94	12/06/94	5330	MG/KG		711	1
Silver	7440-22-4	QC8LK52268-1	11/23/94	12/06/94	ND	MG/KG		28.4	1
Sodium	7440-23-5	QC8LK52268-1	11/23/94	12/06/94	2960	MG/KG		142	1
Vanadium	7440-62-2	QC8LK52268-1	11/23/94	12/06/94	122	MG/KG		2.8	1
Zinc	7440-66-6	QC8LK52268-1	11/23/94	12/06/94	3230	MG/KG		2.8	1

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Project: 135.08

Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Sample Date : 11/03/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Client ID: SB-31-SS1-2-4

Quanterra ID : 6765-061

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52268-1	11/23/94	12/06/94	29600	MG/KG		28.2	1
Antimony	7440-36-0	QCBLK52268-1	11/23/94	12/06/94	ND	MG/KG		14.1	1
Arsenic	7440-38-2	QCBLK52268-1	11/23/94	12/07/94	12.4	MG/KG		0.42	1
Barium	7440-39-3	QCBLK52268-1	11/23/94	12/06/94	3290	MG/KG		28.2	1
Beryllium	7440-41-7	QCBLK52268-1	11/23/94	12/06/94	2.6	MG/KG		0.099	1
Cadmium	7440-43-9	QCBLK52268-1	11/23/94	12/06/94	9.8	MG/KG		2.8	1
Calcium	7440-70-2	QCBLK52268-1	11/23/94	12/07/94	83900	MG/KG		3520	5
Chromium	7440-47-3	QCBLK52268-1	11/23/94	12/06/94	409	MG/KG		2.8	1
Cobalt	7440-48-4	QCBLK52268-1	11/23/94	12/06/94	14.3	MG/KG		2.8	1
Copper	7440-50-8	QCBLK52268-1	11/23/94	12/06/94	453	MG/KG		2.8	1
Iron	7439-89-6	QCBLK52268-1	11/23/94	12/06/94	40600	MG/KG		14.1	1
Lead	7439-92-1	QCBLK52268-1	11/23/94	12/07/94	429	MG/KG		0.42	1
Magnesium	7439-95-4	QCBLK52268-1	11/23/94	12/06/94	5580	MG/KG		705	1
Manganese	7439-96-5	QCBLK52268-1	11/23/94	12/06/94	527	MG/KG		1.4	1
Nickel	7440-02-0	QCBLK52268-1	11/23/94	12/06/94	123	MG/KG		5.6	1
Potassium	7440-09-7	QCBLK52268-1	11/23/94	12/06/94	4370	MG/KG		705	1
Silver	7440-22-4	QCBLK52268-1	11/23/94	12/06/94	ND	MG/KG		28.2	1
Sodium	7440-23-5	QCBLK52268-1	11/23/94	12/06/94	2460	MG/KG		141	1
Vanadium	7440-62-2	QCBLK52268-1	11/23/94	12/06/94	108	MG/KG		2.8	1
Zinc	7440-66-6	QCBLK52268-1	11/23/94	12/06/94	2550	MG/KG		2.8	1

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Project: 135.08

Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Sample Date : 11/03/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Client ID: SB-31-SS2-6-8

Quanterra ID : 6765-062

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52268-1	11/23/94	12/06/94	31900	MG/KG		31.4	1
Antimony	7440-36-0	QCBLK52268-1	11/23/94	12/06/94	ND	MG/KG		15.7	1
Arsenic	7440-38-2	QCBLK52268-1	11/23/94	12/07/94	13.5	MG/KG		0.47	1
Barium	7440-39-3	QCBLK52268-1	11/23/94	12/06/94	4090	MG/KG		31.4	1
Beryllium	7440-41-7	QCBLK52268-1	11/23/94	12/06/94	2.8	MG/KG		0.11	1
Cadmium	7440-43-9	QCBLK52268-1	11/23/94	12/06/94	18.5	MG/KG		3.1	1
Calcium	7440-70-2	QCBLK52268-1	11/23/94	12/06/94	75000	MG/KG		784	1
Chromium	7440-47-3	QCBLK52268-1	11/23/94	12/06/94	519	MG/KG		3.1	1
Cobalt	7440-48-4	QCBLK52268-1	11/23/94	12/06/94	14.6	MG/KG		3.1	1
Copper	7440-50-8	QCBLK52268-1	11/23/94	12/06/94	501	MG/KG		3.1	1
Iron	7439-89-6	QCBLK52268-1	11/23/94	12/06/94	45300	MG/KG		15.7	1
Lead	7439-92-1	QCBLK52268-1	11/23/94	12/07/94	534	MG/KG		0.47	1
Magnesium	7439-95-4	QCBLK52268-1	11/23/94	12/06/94	5850	MG/KG		784	1
Manganese	7439-96-5	QCBLK52268-1	11/23/94	12/06/94	552	MG/KG		1.6	1
Nickel	7440-02-0	QCBLK52268-1	11/23/94	12/06/94	128	MG/KG		6.3	1
Potassium	7440-09-7	QCBLK52268-1	11/23/94	12/06/94	5090	MG/KG		784	1
Silver	7440-22-4	QCBLK52268-1	11/23/94	12/06/94	ND	MG/KG		31.4	1
Sodium	7440-23-5	QCBLK52268-1	11/23/94	12/06/94	2530	MG/KG		157	1
Vanadium	7440-62-2	QCBLK52268-1	11/23/94	12/06/94	118	MG/KG		3.1	1
Zinc	7440-66-6	QCBLK52268-1	11/23/94	12/06/94	4070	MG/KG		3.1	1

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Category: ICAP Metals
Method: EPA 6010
Matrix: Soil

Client ID: SB-32-SS1-2-4

Project: 135.08

Sample Date : 11/03/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Quanterra ID : 6765-063

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52268-1	11/23/94	12/06/94	31400	MG/KG		27.7	1
Antimony	7440-36-0	QCBLK52268-1	11/23/94	12/06/94	ND	MG/KG		13.8	1
Arsenic	7440-38-2	QCBLK52268-1	11/23/94	12/07/94	11.0	MG/KG		0.42	1
Barium	7440-39-3	QCBLK52268-1	11/23/94	12/06/94	3520	MG/KG		27.7	1
Beryllium	7440-41-7	QCBLK52268-1	11/23/94	12/06/94	2.6	MG/KG		0.097	1
Cadmium	7440-43-9	QCBLK52268-1	11/23/94	12/06/94	9.5	MG/KG		2.8	1
Calcium	7440-70-2	QCBLK52268-1	11/23/94	12/07/94	86700	MG/KG		3460	5
Chromium	7440-47-3	QCBLK52268-1	11/23/94	12/06/94	451	MG/KG		2.8	1
Cobalt	7440-48-4	QCBLK52268-1	11/23/94	12/06/94	14.2	MG/KG		2.8	1
Copper	7440-50-8	QCBLK52268-1	11/23/94	12/06/94	444	MG/KG		2.8	1
Iron	7439-89-6	QCBLK52268-1	11/23/94	12/06/94	42000	MG/KG		13.8	1
Lead	7439-92-1	QCBLK52268-1	11/23/94	12/07/94	409	MG/KG		0.42	1
Magnesium	7439-95-4	QCBLK52268-1	11/23/94	12/06/94	5810	MG/KG		692	1
Manganese	7439-96-5	QCBLK52268-1	11/23/94	12/06/94	574	MG/KG		1.4	1
Nickel	7440-02-0	QCBLK52268-1	11/23/94	12/06/94	123	MG/KG		5.5	1
Potassium	7440-09-7	QCBLK52268-1	11/23/94	12/06/94	4650	MG/KG		692	1
Silver	7440-22-4	QCBLK52268-1	11/23/94	12/06/94	ND	MG/KG		27.7	1
Sodium	7440-23-5	QCBLK52268-1	11/23/94	12/06/94	2580	MG/KG		138	1
Vanadium	7440-62-2	QCBLK52268-1	11/23/94	12/06/94	123	MG/KG		2.8	1
Zinc	7440-66-6	QCBLK52268-1	11/23/94	12/06/94	2880	MG/KG		2.8	1

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Category: ICAP Metals
Method: EPA 6010
Matrix: Soil

Project: 135.08

Sample Date : 11/03/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Client ID: SB-32-SS2-6-8

Quanterra ID : 6765-064

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52268-1	11/23/94	12/06/94	28900	MG/KG		31.6	1
Antimony	7440-36-0	QCBLK52268-1	11/23/94	12/06/94	17.0	MG/KG		15.8	1
Arsenic	7440-38-2	QCBLK52268-1	11/23/94	12/07/94	14.6	MG/KG		0.47	1
Barium	7440-39-3	QCBLK52268-1	11/23/94	12/06/94	4370	MG/KG		31.6	1
Beryllium	7440-41-7	QCBLK52268-1	11/23/94	12/06/94	2.8	MG/KG		0.11	1
Cadmium	7440-43-9	QCBLK52268-1	11/23/94	12/06/94	17.9	MG/KG		3.2	1
Calcium	7440-70-2	QCBLK52268-1	11/23/94	12/06/94	74000	MG/KG		791	1
Chromium	7440-47-3	QCBLK52268-1	11/23/94	12/06/94	438	MG/KG		3.2	1
Cobalt	7440-48-4	QCBLK52268-1	11/23/94	12/06/94	15.4	MG/KG		3.2	1
Copper	7440-50-8	QCBLK52268-1	11/23/94	12/06/94	484	MG/KG		3.2	1
Iron	7439-89-6	QCBLK52268-1	11/23/94	12/06/94	40400	MG/KG		15.8	1
Lead	7439-92-1	QCBLK52268-1	11/23/94	12/07/94	546	MG/KG		0.47	1
Magnesium	7439-95-4	QCBLK52268-1	11/23/94	12/06/94	5710	MG/KG		791	1
Manganese	7439-96-5	QCBLK52268-1	11/23/94	12/06/94	572	MG/KG		1.6	1
Nickel	7440-02-0	QCBLK52268-1	11/23/94	12/06/94	110	MG/KG		6.3	1
Potassium	7440-09-7	QCBLK52268-1	11/23/94	12/06/94	4710	MG/KG		791	1
Silver	7440-22-4	QCBLK52268-1	11/23/94	12/06/94	ND	MG/KG		31.6	1
Sodium	7440-23-5	QCBLK52268-1	11/23/94	12/06/94	2710	MG/KG		158	1
Vanadium	7440-62-2	QCBLK52268-1	11/23/94	12/06/94	117	MG/KG		3.2	1
Zinc	7440-66-6	QCBLK52268-1	11/23/94	12/06/94	3840	MG/KG		3.2	1



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Environmental
Services

Project: 135.08

Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Sample Date : 11/04/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Client ID: S8-33-SS1-0-2

Quanterra ID : 6765-067

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52268-1	11/23/94	12/06/94	26000	MG/KG		26.2	1
Antimony	7440-36-0	QCBLK52268-1	11/23/94	12/06/94	14.6	MG/KG		13.1	1
Arsenic	7440-38-2	QCBLK52268-1	11/23/94	12/07/94	10.5	MG/KG		0.39	1
Barium	7440-39-3	QCBLK52268-1	11/23/94	12/06/94	2860	MG/KG		26.2	1
Beryllium	7440-41-7	QCBLK52268-1	11/23/94	12/06/94	2.3	MG/KG		0.092	1
Cadmium	7440-43-9	QCBLK52268-1	11/23/94	12/06/94	6.3	MG/KG		2.6	1
Calcium	7440-70-2	QCBLK52268-1	11/23/94	12/07/94	94100	MG/KG		3280	5
Chromium	7440-47-3	QCBLK52268-1	11/23/94	12/07/94	437	MG/KG		13.1	5
Cobalt	7440-48-4	QCBLK52268-1	11/23/94	12/06/94	15.0	MG/KG		2.6	1
Copper	7440-50-8	QCBLK52268-1	11/23/94	12/06/94	355	MG/KG		2.6	1
Iron	7439-89-6	QCBLK52268-1	11/23/94	12/06/94	41500	MG/KG		13.1	1
Lead	7439-92-1	QCBLK52268-1	11/23/94	12/07/94	336	MG/KG		0.39	1
Magnesium	7439-95-4	QCBLK52268-1	11/23/94	12/06/94	5420	MG/KG		656	1
Manganese	7439-96-5	QCBLK52268-1	11/23/94	12/06/94	529	MG/KG		1.3	1
Nickel	7440-02-0	QCBLK52268-1	11/23/94	12/06/94	112	MG/KG		5.2	1
Potassium	7440-09-7	QCBLK52268-1	11/23/94	12/06/94	3770	MG/KG		656	1
Silver	7440-22-4	QCBLK52268-1	11/23/94	12/07/94	ND	MG/KG		131	5
Sodium	7440-23-5	QCBLK52268-1	11/23/94	12/06/94	1970	MG/KG		131	1
Vanadium	7440-62-2	QCBLK52268-1	11/23/94	12/07/94	99.9	MG/KG		13.1	5
Zinc	7440-66-6	QCBLK52268-1	11/23/94	12/06/94	2430	MG/KG		2.6	1

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Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Project: 135.08

Sample Date : 11/04/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Client ID: SB-33-SS3-8-10

Quanterra ID : 6765-069

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52268-1	11/23/94	12/06/94	28400	MG/KG		28.6	1
Antimony	7440-36-0	QCBLK52268-1	11/23/94	12/06/94	ND	MG/KG		14.3	1
Arsenic	7440-38-2	QCBLK52268-1	11/23/94	12/07/94	16.8	MG/KG		0.43	1
Barium	7440-39-3	QCBLK52268-1	11/23/94	12/06/94	3460	MG/KG		28.6	1
Beryllium	7440-41-7	QCBLK52268-1	11/23/94	12/06/94	2.3	MG/KG		0.10	1
Cadmium	7440-43-9	QCBLK52268-1	11/23/94	12/06/94	9.2	MG/KG		2.9	1
Calcium	7440-70-2	QCBLK52268-1	11/23/94	12/06/94	98800	MG/KG		3570	5
Chromium	7440-47-3	QCBLK52268-1	11/23/94	12/06/94	431	MG/KG		14.3	5
Cobalt	7440-48-4	QCBLK52268-1	11/23/94	12/06/94	13.4	MG/KG		2.9	1
Copper	7440-50-8	QCBLK52268-1	11/23/94	12/06/94	440	MG/KG		2.9	1
Iron	7439-89-6	QCBLK52268-1	11/23/94	12/06/94	40600	MG/KG		14.3	1
Lead	7439-92-1	QCBLK52268-1	11/23/94	12/07/94	387	MG/KG		0.43	1
Magnesium	7439-95-4	QCBLK52268-1	11/23/94	12/06/94	7080	MG/KG		714	1
Manganese	7439-96-5	QCBLK52268-1	11/23/94	12/06/94	601	MG/KG		1.4	1
Nickel	7440-02-0	QCBLK52268-1	11/23/94	12/06/94	123	MG/KG		5.7	1
Potassium	7440-09-7	QCBLK52268-1	11/23/94	12/06/94	4110	MG/KG		714	1
Silver	7440-22-4	QCBLK52268-1	11/23/94	12/06/94	ND	MG/KG		143	5
Sodium	7440-23-5	QCBLK52268-1	11/23/94	12/06/94	2470	MG/KG		143	1
Vanadium	7440-62-2	QCBLK52268-1	11/23/94	12/06/94	112	MG/KG		14.3	5
Zinc	7440-66-6	QCBLK52268-1	11/23/94	12/06/94	2660	MG/KG		2.9	1

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Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Project: 135.08

Sample Date : NA
Receipt Date : NA
Report Date : 12/21/94

Client ID: SB-11-SS3-8-9

Quanterra ID : QCLCS52261-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52261-1	11/23/94	12/05/94	70	XREC			1
Antimony	7440-36-0	QCBLK52261-1	11/23/94	12/05/94	127	XREC			1
Arsenic	7440-38-2	QCBLK52261-1	11/23/94	12/07/94	117	XREC			1
Barium	7440-39-3	QCBLK52261-1	11/23/94	12/05/94	97	XREC			1
Beryllium	7440-41-7	QCBLK52261-1	11/23/94	12/05/94	106	XREC			1
Cadmium	7440-43-9	QCBLK52261-1	11/23/94	12/05/94	111	XREC			1
Calcium	7440-70-2	QCBLK52261-1	11/23/94	12/05/94	114	XREC			1
Chromium	7440-47-3	QCBLK52261-1	11/23/94	12/05/94	102	XREC			1
Cobalt	7440-48-4	QCBLK52261-1	11/23/94	12/05/94	109	XREC			1
Copper	7440-50-8	QCBLK52261-1	11/23/94	12/05/94	105	XREC			1
Iron	7439-89-6	QCBLK52261-1	11/23/94	12/05/94	85	XREC			1
Lead	7439-92-1	QCBLK52261-1	11/23/94	12/07/94	108	XREC			1
Magnesium	7439-95-4	QCBLK52261-1	11/23/94	12/05/94	104	XREC			1
Manganese	7439-96-5	QCBLK52261-1	11/23/94	12/05/94	99	XREC			1
Nickel	7440-02-0	QCBLK52261-1	11/23/94	12/05/94	109	XREC			1
Potassium	7440-09-7	QCBLK52261-1	11/23/94	12/05/94	106	XREC			1
Silver	7440-22-4	QCBLK52261-1	11/23/94	12/05/94	113	XREC			1
Sodium	7440-23-5	QCBLK52261-1	11/23/94	12/05/94	106	XREC			1
Vanadium	7440-62-2	QCBLK52261-1	11/23/94	12/05/94	100	XREC			1
Zinc	7440-66-6	QCBLK52261-1	11/23/94	12/05/94	106	XREC			1

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Project: 135.08

Category: ICAP Metals
Method: EPA 6010
Matrix: Soil

Sample Date : NA
Receipt Date : NA
Report Date : 12/21/94

Client ID: NA

Quanterra ID : QCLCS52264-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52264-1	11/23/94	12/06/94	92	XREC			1
Antimony	7440-36-0	QCBLK52264-1	11/23/94	12/06/94	137	XREC			1
Arsenic	7440-38-2	QCBLK52264-1	11/23/94	12/06/94	121	XREC			1
Barium	7440-39-3	QCBLK52264-1	11/23/94	12/06/94	103	XREC			1
Beryllium	7440-41-7	QCBLK52264-1	11/23/94	12/06/94	106	XREC			1
Cadmium	7440-43-9	QCBLK52264-1	11/23/94	12/06/94	110	XREC			1
Calcium	7440-70-2	QCBLK52264-1	11/23/94	12/06/94	119	XREC			1
Chromium	7440-47-3	QCBLK52264-1	11/23/94	12/06/94	107	XREC			1
Cobalt	7440-48-4	QCBLK52264-1	11/23/94	12/06/94	111	XREC			1
Copper	7440-50-8	QCBLK52264-1	11/23/94	12/06/94	111	XREC			1
Iron	7439-89-6	QCBLK52264-1	11/23/94	12/06/94	122	XREC			1
Lead	7439-92-1	QCBLK52264-1	11/23/94	12/06/94	112	XREC			1
Magnesium	7439-95-4	QCBLK52264-1	11/23/94	12/06/94	109	XREC			1
Manganese	7439-96-5	QCBLK52264-1	11/23/94	12/06/94	112	XREC			1
Nickel	7440-02-0	QCBLK52264-1	11/23/94	12/06/94	113	XREC			1
Potassium	7440-09-7	QCBLK52264-1	11/23/94	12/06/94	111	XREC			1
Silver	7440-22-4	QCBLK52264-1	11/23/94	12/06/94	111	XREC			1
Sodium	7440-23-5	QCBLK52264-1	11/23/94	12/06/94	109	XREC			1
Vanadium	7440-62-2	QCBLK52264-1	11/23/94	12/06/94	98	XREC			1
Zinc	7440-66-6	QCBLK52264-1	11/23/94	12/06/94	115	XREC			1



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Category: ICAP Metals
Method: EPA 6010
Matrix: Soil

Project: 135.08

Sample Date : NA
Receipt Date : NA
Report Date : 12/21/94

Client ID: NA

Quanterra ID : QCLCS52266-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52266-1	11/23/94	12/06/94	62	XREC			1
Antimony	7440-36-0	QCBLK52266-1	11/23/94	12/06/94	134	XREC			1
Arsenic	7440-38-2	QCBLK52266-1	11/23/94	12/06/94	115	XREC			1
Barium	7440-39-3	QCBLK52266-1	11/23/94	12/06/94	96	XREC			1
Beryllium	7440-41-7	QCBLK52266-1	11/23/94	12/06/94	103	XREC			1
Cadmium	7440-43-9	QCBLK52266-1	11/23/94	12/06/94	106	XREC			1
Calcium	7440-70-2	QCBLK52266-1	11/23/94	12/06/94	110	XREC			1
Chromium	7440-47-3	QCBLK52266-1	11/23/94	12/06/94	96	XREC			1
Cobalt	7440-48-4	QCBLK52266-1	11/23/94	12/06/94	106	XREC			1
Copper	7440-50-8	QCBLK52266-1	11/23/94	12/06/94	104	XREC			1
Iron	7439-89-6	QCBLK52266-1	11/23/94	12/06/94	74	XREC			1
Lead	7439-92-1	QCBLK52266-1	11/23/94	12/06/94	109	XREC			1
Magnesium	7439-95-4	QCBLK52266-1	11/23/94	12/06/94	97	XREC			1
Manganese	7439-96-5	QCBLK52266-1	11/23/94	12/06/94	95	XREC			1
Nickel	7440-02-0	QCBLK52266-1	11/23/94	12/06/94	107	XREC			1
Potassium	7440-09-7	QCBLK52266-1	11/23/94	12/06/94	96	XREC			1
Silver	7440-22-4	QCBLK52266-1	11/23/94	12/06/94	106	XREC			1
Sodium	7440-23-5	QCBLK52266-1	11/23/94	12/06/94	99	XREC			1
Vanadium	7440-62-2	QCBLK52266-1	11/23/94	12/06/94	91	XREC			1
Zinc	7440-66-6	QCBLK52266-1	11/23/94	12/06/94	102	XREC			1



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Environmental
Services

Project: 135.08

Category: ICAP Metals
Method: EPA 6010
Matrix: Soil

Sample Date : NA
Receipt Date : NA
Report Date : 12/21/94

Client ID: NA

Quanterra ID : QCLCS52268-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52268-1	11/23/94	12/06/94	78	%REC			1
Antimony	7440-36-0	QCBLK52268-1	11/23/94	12/06/94	144	%REC			1
Arsenic	7440-38-2	QCBLK52268-1	11/23/94	12/07/94	114	%REC			1
Barium	7440-39-3	QCBLK52268-1	11/23/94	12/06/94	99	%REC			1
Beryllium	7440-41-7	QCBLK52268-1	11/23/94	12/06/94	104	%REC			1
Cadmium	7440-43-9	QCBLK52268-1	11/23/94	12/06/94	107	%REC			1
Calcium	7440-70-2	QCBLK52268-1	11/23/94	12/06/94	114	%REC			1
Chromium	7440-47-3	QCBLK52268-1	11/23/94	12/06/94	100	%REC			1
Cobalt	7440-48-4	QCBLK52268-1	11/23/94	12/06/94	107	%REC			1
Copper	7440-50-8	QCBLK52268-1	11/23/94	12/06/94	107	%REC			1
Iron	7439-89-6	QCBLK52268-1	11/23/94	12/06/94	99	%REC			1
Lead	7439-92-1	QCBLK52268-1	11/23/94	12/07/94	109	%REC			1
Magnesium	7439-95-4	QCBLK52268-1	11/23/94	12/06/94	103	%REC			1
Manganese	7439-96-5	QCBLK52268-1	11/23/94	12/06/94	100	%REC			1
Nickel	7440-02-0	QCBLK52268-1	11/23/94	12/06/94	109	%REC			1
Potassium	7440-09-7	QCBLK52268-1	11/23/94	12/06/94	106	%REC			1
Silver	7440-22-4	QCBLK52268-1	11/23/94	12/06/94	110	%REC			1
Sodium	7440-23-5	QCBLK52268-1	11/23/94	12/06/94	105	%REC			1
Vanadium	7440-62-2	QCBLK52268-1	11/23/94	12/06/94	96	%REC			1
Zinc	7440-66-6	QCBLK52268-1	11/23/94	12/06/94	107	%REC			1

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Project: 135.08

Category: ICAP Metals
Method: EPA 6010
Matrix: Solid

Sample Date : NA
Receipt Date : NA
Report Date : 12/21/94

Client ID: NA

Quanterra ID : QCBLK52261-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52261-1	11/23/94	12/05/94	ND MG/KG		20.0	1
Antimony	7440-36-0	QCBLK52261-1	11/23/94	12/05/94	ND MG/KG		10.0	1
Arsenic	7440-38-2	QCBLK52261-1	11/23/94	12/07/94	ND MG/KG		0.30	1
Barium	7440-39-3	QCBLK52261-1	11/23/94	12/05/94	ND MG/KG		20.0	1
Beryllium	7440-41-7	QCBLK52261-1	11/23/94	12/05/94	ND MG/KG		0.70	1
Cadmium	7440-43-9	QCBLK52261-1	11/23/94	12/05/94	ND MG/KG		2.0	1
Calcium	7440-70-2	QCBLK52261-1	11/23/94	12/05/94	ND MG/KG		500	1
Chromium	7440-47-3	QCBLK52261-1	11/23/94	12/05/94	ND MG/KG		2.0	1
Cobalt	7440-48-4	QCBLK52261-1	11/23/94	12/05/94	ND MG/KG		2.0	1
Copper	7440-50-8	QCBLK52261-1	11/23/94	12/05/94	ND MG/KG		2.0	1
Iron	7439-89-6	QCBLK52261-1	11/23/94	12/05/94	ND MG/KG		10.0	1
Lead	7439-92-1	QCBLK52261-1	11/23/94	12/07/94	ND MG/KG		0.30	1
Magnesium	7439-95-4	QCBLK52261-1	11/23/94	12/05/94	ND MG/KG		500	1
Manganese	7439-96-5	QCBLK52261-1	11/23/94	12/05/94	ND MG/KG		1.0	1
Nickel	7440-02-0	QCBLK52261-1	11/23/94	12/05/94	ND MG/KG		4.0	1
Potassium	7440-09-7	QCBLK52261-1	11/23/94	12/05/94	ND MG/KG		500	1
Silver	7440-22-4	QCBLK52261-1	11/23/94	12/05/94	ND MG/KG		20.0	1
Sodium	7440-23-5	QCBLK52261-1	11/23/94	12/05/94	ND MG/KG		100	1
Vanadium	7440-62-2	QCBLK52261-1	11/23/94	12/05/94	ND MG/KG		2.0	1
Zinc	7440-66-6	QCBLK52261-1	11/23/94	12/05/94	ND MG/KG		2.0	1

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Category: ICAP Metals
Method: EPA 6010
Matrix: Soil

Project: 135.08

Sample Date : NA
Receipt Date : NA
Report Date : 12/21/94

Client ID: NA

Quanterra ID : QC8LK52264-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QC8LK52264-1	11/23/94	12/06/94	ND MG/KG		20.0	1
Antimony	7440-36-0	QC8LK52264-1	11/23/94	12/06/94	ND MG/KG		10.0	1
Arsenic	7440-38-2	QC8LK52264-1	11/23/94	12/06/94	ND MG/KG		0.30	1
Barium	7440-39-3	QC8LK52264-1	11/23/94	12/06/94	ND MG/KG		20.0	1
Beryllium	7440-41-7	QC8LK52264-1	11/23/94	12/06/94	ND MG/KG		0.70	1
Cadmium	7440-43-9	QC8LK52264-1	11/23/94	12/06/94	ND MG/KG		2.0	1
Calcium	7440-70-2	QC8LK52264-1	11/23/94	12/06/94	ND MG/KG		500	1
Chromium	7440-47-3	QC8LK52264-1	11/23/94	12/06/94	ND MG/KG		2.0	1
Cobalt	7440-48-4	QC8LK52264-1	11/23/94	12/06/94	ND MG/KG		2.0	1
Copper	7440-50-8	QC8LK52264-1	11/23/94	12/06/94	ND MG/KG		2.0	1
Iron	7439-89-6	QC8LK52264-1	11/23/94	12/06/94	ND MG/KG		10.0	1
Lead	7439-92-1	QC8LK52264-1	11/23/94	12/06/94	ND MG/KG		0.30	1
Magnesium	7439-95-4	QC8LK52264-1	11/23/94	12/06/94	ND MG/KG		500	1
Manganese	7439-96-5	QC8LK52264-1	11/23/94	12/06/94	ND MG/KG		1.0	1
Nickel	7440-02-0	QC8LK52264-1	11/23/94	12/06/94	ND MG/KG		4.0	1
Potassium	7440-09-7	QC8LK52264-1	11/23/94	12/06/94	ND MG/KG		500	1
Silver	7440-22-4	QC8LK52264-1	11/23/94	12/06/94	ND MG/KG		20.0	1
Sodium	7440-23-5	QC8LK52264-1	11/23/94	12/06/94	ND MG/KG		100	1
Vanadium	7440-62-2	QC8LK52264-1	11/23/94	12/06/94	ND MG/KG		2.0	1
Zinc	7440-66-6	QC8LK52264-1	11/23/94	12/06/94	ND MG/KG		2.0	1

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Category: ICAP Metals
Method: EPA 6010
Matrix: Soil

Project: 135.08

Sample Date : NA
Receipt Date : NA
Report Date : 12/21/94

Client ID: NA

Quanterra ID : QCBLK52266-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52266-1	11/23/94	12/06/94	ND	MG/KG		20.0	1
Antimony	7440-36-0	QCBLK52266-1	11/23/94	12/06/94	ND	MG/KG		10.0	1
Arsenic	7440-38-2	QCBLK52266-1	11/23/94	12/06/94	ND	MG/KG		0.30	1
Barium	7440-39-3	QCBLK52266-1	11/23/94	12/06/94	ND	MG/KG		20.0	1
Beryllium	7440-41-7	QCBLK52266-1	11/23/94	12/06/94	ND	MG/KG		0.70	1
Cadmium	7440-43-9	QCBLK52266-1	11/23/94	12/06/94	ND	MG/KG		2.0	1
Calcium	7440-70-2	QCBLK52266-1	11/23/94	12/06/94	ND	MG/KG		500	1
Chromium	7440-47-3	QCBLK52266-1	11/23/94	12/06/94	ND	MG/KG		2.0	1
Cobalt	7440-48-4	QCBLK52266-1	11/23/94	12/06/94	ND	MG/KG		2.0	1
Copper	7440-50-8	QCBLK52266-1	11/23/94	12/06/94	ND	MG/KG		2.0	1
Iron	7439-89-6	QCBLK52266-1	11/23/94	12/06/94	ND	MG/KG		10.0	1
Lead	7439-92-1	QCBLK52266-1	11/23/94	12/06/94	ND	MG/KG		0.30	1
Magnesium	7439-95-4	QCBLK52266-1	11/23/94	12/06/94	ND	MG/KG		500	1
Manganese	7439-96-5	QCBLK52266-1	11/23/94	12/06/94	ND	MG/KG		1.0	1
Nickel	7440-02-0	QCBLK52266-1	11/23/94	12/06/94	ND	MG/KG		4.0	1
Potassium	7440-09-7	QCBLK52266-1	11/23/94	12/06/94	ND	MG/KG		500	1
Silver	7440-22-4	QCBLK52266-1	11/23/94	12/06/94	ND	MG/KG		20.0	1
Sodium	7440-23-5	QCBLK52266-1	11/23/94	12/06/94	ND	MG/KG		100	1
Vanadium	7440-62-2	QCBLK52266-1	11/23/94	12/06/94	ND	MG/KG		2.0	1
Zinc	7440-66-6	QCBLK52266-1	11/23/94	12/06/94	ND	MG/KG		2.0	1



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Environmental
Services

Project: 135.08

Category: ICAP Metals
Method: EPA 6010
Matrix: Water

Sample Date : NA
Receipt Date : NA
Report Date : 12/21/94

Client ID: NA

Quanterra ID : QCBLK52268-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52268-1	11/23/94	12/06/94	ND MG/KG		20.0	1
Antimony	7440-36-0	QCBLK52268-1	11/23/94	12/06/94	ND MG/KG		10.0	1
Arsenic	7440-38-2	QCBLK52268-1	11/23/94	12/07/94	ND MG/KG		0.30	1
Barium	7440-39-3	QCBLK52268-1	11/23/94	12/06/94	ND MG/KG		20.0	1
Beryllium	7440-41-7	QCBLK52268-1	11/23/94	12/06/94	ND MG/KG		0.70	1
Cadmium	7440-43-9	QCBLK52268-1	11/23/94	12/06/94	ND MG/KG		2.0	1
Calcium	7440-70-2	QCBLK52268-1	11/23/94	12/06/94	ND MG/KG		500	1
Chromium	7440-47-3	QCBLK52268-1	11/23/94	12/06/94	ND MG/KG		2.0	1
Cobalt	7440-48-4	QCBLK52268-1	11/23/94	12/06/94	ND MG/KG		2.0	1
Copper	7440-50-8	QCBLK52268-1	11/23/94	12/06/94	ND MG/KG		2.0	1
Iron	7439-89-6	QCBLK52268-1	11/23/94	12/06/94	ND MG/KG		10.0	1
Lead	7439-92-1	QCBLK52268-1	11/23/94	12/07/94	ND MG/KG		0.30	1
Magnesium	7439-95-4	QCBLK52268-1	11/23/94	12/06/94	ND MG/KG		500	1
Manganese	7439-96-5	QCBLK52268-1	11/23/94	12/06/94	ND MG/KG		1.0	1
Nickel	7440-02-0	QCBLK52268-1	11/23/94	12/06/94	ND MG/KG		4.0	1
Potassium	7440-09-7	QCBLK52268-1	11/23/94	12/06/94	ND MG/KG		500	1
Silver	7440-22-4	QCBLK52268-1	11/23/94	12/06/94	ND MG/KG		20.0	1
Sodium	7440-23-5	QCBLK52268-1	11/23/94	12/06/94	ND MG/KG		100	1
Vanadium	7440-62-2	QCBLK52268-1	11/23/94	12/06/94	ND MG/KG		2.0	1
Zinc	7440-66-6	QCBLK52268-1	11/23/94	12/06/94	ND MG/KG		2.0	1

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Project: 135.08

Category: Selenium
Method: EPA 7740
Matrix: Solid

Sample Date : 10/31/94
Receipt Date : 10/31/94
Report Date : 12/21/94

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
SB01-SS1-2-4	6720-001	Selenium	7782-49-2	QCBLK52263-1	11/23/94	11/23/94	ND	MG/KG		0.39	1
SB-01-SS3-6-8	6720-002	Selenium	7782-49-2	QCBLK52263-1	11/23/94	11/23/94	ND	MG/KG		0.45	1
SB-01-SS4-14-16	6720-003	Selenium	7782-49-2	QCBLK52263-1	11/23/94	11/23/94	ND	MG/KG		0.39	1
SB-02-SS1-2-4	6720-004	Selenium	7782-49-2	QCBLK52263-1	11/23/94	11/23/94	ND	MG/KG		0.42	1
SB02-SS3-8-9.5	6720-005	Selenium	7782-49-2	QCBLK52263-1	11/23/94	11/23/94	ND	MG/KG		0.48	1
SB-03-SS1-2-4	6720-006	Selenium	7782-49-2	QCBLK52263-1	11/23/94	11/23/94	0.49	MG/KG		0.41	1
SB-04-SS1-2-4	6720-007	Selenium	7782-49-2	QCBLK52263-1	11/23/94	11/23/94	ND	MG/KG		0.41	1
SB05-SS2-6-8	6720-008	Selenium	7782-49-2	QCBLK52263-1	11/23/94	11/23/94	ND	MG/KG		0.42	1
SB-06-SS2-6-8	6765-002	Selenium	7782-49-2	QCBLK52263-1	11/23/94	11/23/94	ND	MG/KG		0.44	1
SB-06-SS3-13-14	6765-003	Selenium	7782-49-2	QCBLK52263-1	11/23/94	11/23/94	ND	MG/KG		0.74	1
SB-07-SS1-2-4	6765-004	Selenium	7782-49-2	QCBLK52263-1	11/23/94	11/23/94	ND	MG/KG		0.38	1
SB-07-SS2-4-6	6765-005	Selenium	7782-49-2	QCBLK52263-1	11/23/94	11/23/94	ND	MG/KG		0.38	1
SB-09-SS1-0-2	6765-006	Selenium	7782-49-2	QCBLK52263-1	11/23/94	11/23/94	ND	MG/KG		0.40	1
SB-09-SS2-6-8	6765-007	Selenium	7782-49-2	QCBLK52263-1	11/23/94	11/23/94	0.43	MG/KG		0.43	1
SB-08-SS1-0-2	6765-008	Selenium	7782-49-2	QCBLK52263-1	11/23/94	11/23/94	0.55	MG/KG		0.42	1
SB-08-SS4-16-18	6765-010	Selenium	7782-49-2	QCBLK52263-1	11/23/94	11/23/94	ND	MG/KG		0.41	1
SB-10-SS2-6-8	6765-012	Selenium	7782-49-2	QCBLK52263-1	11/23/94	11/23/94	ND	MG/KG		0.43	1
SB-11-SS1-0-2	6765-013	Selenium	7782-49-2	QCBLK52263-1	11/23/94	11/23/94	ND	MG/KG		0.40	1
SB-11-SS2-4-6	6765-014	Selenium	7782-49-2	QCBLK52263-1	11/23/94	11/23/94	ND	MG/KG		0.44	1
SB-11-SS3-8-9	6765-015	Selenium	7782-49-2	QCBLK52263-1	11/23/94	11/23/94	ND	MG/KG		0.47	1
SB-12-SS1-0-2	6765-016	Selenium	7782-49-2	QCBLK52265-1	11/23/94	11/23/94	ND	MG/KG		0.40	1
SB-12-SS3-8-9	6765-018	Selenium	7782-49-2	QCBLK52265-1	11/23/94	11/23/94	ND	MG/KG		0.46	1
SB-13-SS1-0-2	6765-020	Selenium	7782-49-2	QCBLK52265-1	11/23/94	11/23/94	ND	MG/KG		0.37	1
SB-13-SS3-8-10	6765-022	Selenium	7782-49-2	QCBLK52265-1	11/23/94	11/23/94	ND	MG/KG		0.46	1
SB-14-SS1-0-2	6765-023	Selenium	7782-49-2	QCBLK52265-1	11/23/94	11/23/94	ND	MG/KG		0.36	1
SB-14-SS2-4-6	6765-024	Selenium	7782-49-2	QCBLK52265-1	11/23/94	11/23/94	ND	MG/KG		0.42	1
SB-15-SS1-2-4	6765-026	Selenium	7782-49-2	QCBLK52265-1	11/23/94	11/23/94	0.43	MG/KG		0.38	1
SB-15-SS2-6-8	6765-027	Selenium	7782-49-2	QCBLK52265-1	11/23/94	11/23/94	0.52	MG/KG		0.45	1
SB-20-SS1-0-2	6765-029	Selenium	7782-49-2	QCBLK52265-1	11/23/94	11/23/94	0.38	MG/KG		0.34	1
SB-20-SS3-8-9	6765-031	Selenium	7782-49-2	QCBLK52265-1	11/23/94	11/23/94	0.76	MG/KG		0.39	1
SB-19-SS1-0-2	6765-032	Selenium	7782-49-2	QCBLK52265-1	11/23/94	11/23/94	1.2	MG/KG		0.33	1

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Project: 135.08

Category: Selenium
Method: EPA 7740
Matrix: Solid

Sample Date : 11/02/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
SB-19-SS3-6-8	6765-034	Selenium	7782-49-2	QCBLK52265-1	11/23/94	11/23/94	1.0	MG/KG		0.42	1
SB-23-SS1-2-4	6765-035	Selenium	7782-49-2	QCBLK52265-1	11/23/94	11/23/94	0.98	MG/KG		0.36	1
SB-23-SS2-6-8	6765-036	Selenium	7782-49-2	QCBLK52265-1	11/23/94	11/23/94	1.1	MG/KG		0.41	1
SB-22-SS1-2-4	6765-037	Selenium	7782-49-2	QCBLK52265-1	11/23/94	11/23/94	1.4	MG/KG		0.41	1
SB-22-SS2-6-7	6765-038	Selenium	7782-49-2	QCBLK52265-1	11/23/94	11/23/94	1.0	MG/KG		0.41	1
SB-18-SS2-4-6	6765-040	Selenium	7782-49-2	QCBLK52265-1	11/23/94	11/23/94	1.2	MG/KG		0.46	1
SB-18-SS3-6-8	6765-041	Selenium	7782-49-2	QCBLK52265-1	11/23/94	11/23/94	1.2	MG/KG		0.47	1
SB-16-SS1-0-2	6765-042	Selenium	7782-49-2	QCBLK52265-1	11/23/94	11/23/94	1.2	MG/KG		0.37	1
SB-16-SS3-8-9	6765-044	Selenium	7782-49-2	QCBLK52265-1	11/23/94	11/23/94	1.2	MG/KG		0.46	1
SB-16-SS4-10-12	6765-045	Selenium	7782-49-2	QCBLK52267-1	11/23/94	11/23/94	1.1	MG/KG		0.37	1
SB-17-SS1-2-4	6765-046	Selenium	7782-49-2	QCBLK52267-1	11/23/94	11/23/94	1.1	MG/KG		0.43	1
SB-17-SS3-6-8	6765-048	Selenium	7782-49-2	QCBLK52267-1	11/23/94	11/23/94	1.3	MG/KG		0.48	1
SB-25-SS1-2-4	6765-049	Selenium	7782-49-2	QCBLK52267-1	11/23/94	11/23/94	1.1	MG/KG		0.39	1
SB-25-SS2-6-8	6765-050	Selenium	7782-49-2	QCBLK52267-1	11/23/94	11/23/94	1.0	MG/KG		0.41	1
SB-24-SS1-2-4	6765-051	Selenium	7782-49-2	QCBLK52267-1	11/23/94	11/23/94	1.3	MG/KG		0.42	1
SB-24-SS2-6-8	6765-052	Selenium	7782-49-2	QCBLK52267-1	11/23/94	11/23/94	0.89	MG/KG		0.46	1
SB-27-SS1-2-4	6765-053	Selenium	7782-49-2	QCBLK52267-1	11/23/94	11/23/94	1.0	MG/KG		0.34	1
SB-27-SS2-6-8	6765-054	Selenium	7782-49-2	QCBLK52267-1	11/23/94	11/23/94	0.97	MG/KG		0.41	1
SB-29-SS1-2-4	6765-055	Selenium	7782-49-2	QCBLK52267-1	11/23/94	11/23/94	0.82	MG/KG		0.37	1
SB-29-SS2-4-6	6765-056	Selenium	7782-49-2	QCBLK52267-1	11/23/94	11/23/94	ND	MG/KG		0.40	1
SB-28-SS1-2-4	6765-057	Selenium	7782-49-2	QCBLK52267-1	11/23/94	11/23/94	ND	MG/KG		0.42	1
SB-28-SS2-6-8	6765-058	Selenium	7782-49-2	QCBLK52269-1	11/23/94	11/23/94	1.2	MG/KG		0.46	1
SB-26-SS1-2-4	6765-059	Selenium	7782-49-2	QCBLK52269-1	11/23/94	11/23/94	0.93	MG/KG		0.42	1
SB-26-SS2-6-8	6765-060	Selenium	7782-49-2	QCBLK52269-1	11/23/94	11/23/94	1.1	MG/KG		0.43	1
SB-31-SS1-2-4	6765-061	Selenium	7782-49-2	QCBLK52269-1	11/23/94	11/23/94	0.93	MG/KG		0.42	1
SB-31-SS2-6-8	6765-062	Selenium	7782-49-2	QCBLK52269-1	11/23/94	11/23/94	1.0	MG/KG		0.47	1
SB-32-SS1-2-4	6765-063	Selenium	7782-49-2	QCBLK52269-1	11/23/94	11/23/94	0.81	MG/KG		0.42	1
SB-32-SS2-6-8	6765-064	Selenium	7782-49-2	QCBLK52269-1	11/23/94	11/23/94	0.89	MG/KG		0.47	1
SB-30-SS1-2-4	6765-065	Selenium	7782-49-2	QCBLK52269-1	11/23/94	11/23/94	0.59	MG/KG		0.39	1
SB-30-SS2-6-8	6765-066	Selenium	7782-49-2	QCBLK52269-1	11/23/94	11/23/94	0.89	MG/KG		0.43	1
SB-33-SS1-0-2	6765-067	Selenium	7782-49-2	QCBLK52269-1	11/23/94	11/23/94	1.3	MG/KG		0.39	1

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Category: Selenium
Method: EPA 7740
Matrix: Solid

Project: 135.08

Sample Date : 11/04/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
SB-33-SS3-8-10	6765-069	Selenium	7782-49-2	QCBLK52269-1	11/23/94	11/23/94	1.1	MG/KG		0.43	1
NA	QCLCS52263-1	Selenium	7782-49-2	QCBLK52263-1	11/23/94	11/23/94	109	%REC			20
NA	QCLCS52265-1	Selenium	7782-49-2	QCBLK52265-1	11/23/94	11/23/94	92	%REC			20
NA	QCLCS52267-1	Selenium	7782-49-2	QCBLK52267-1	11/23/94	11/23/94	102	%REC			20
NA	QCLCS52269-1	Selenium	7782-49-2	QCBLK52269-1	11/23/94	11/23/94	93	%REC			20
NA	QCBLK52263-1	Selenium	7782-49-2	QCBLK52263-1	11/23/94	11/23/94	ND	MG/KG		0.30	1
NA	QCBLK52265-1	Selenium	7782-49-2	QCBLK52265-1	11/23/94	11/23/94	ND	MG/KG		0.30	1
NA	QCBLK52267-1	Selenium	7782-49-2	QCBLK52267-1	11/23/94	11/23/94	ND	MG/KG		0.30	1
NA	QCBLK52269-1	Selenium	7782-49-2	QCBLK52269-1	11/23/94	11/23/94	ND	MG/KG		0.30	1

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Chesterfield, MO 63017



Category: Thallium
Method: EPA 7841
Matrix: Solid

Project: 135.08

Sample Date : 10/31/94
Receipt Date : 10/31/94
Report Date : 12/21/94

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
SB01-SS1-2-4	6720-001	Thallium	7440-28-0	QCBLK52263-1	11/23/94	11/23/94	0.53	MG/KG		0.39	1
SB-01-SS3-6-8	6720-002	Thallium	7440-28-0	QCBLK52263-1	11/23/94	11/23/94	0.70	MG/KG		0.45	1
SB-01-SS4-14-16	6720-003	Thallium	7440-28-0	QCBLK52263-1	11/23/94	11/23/94	0.52	MG/KG		0.39	1
SB-02-SS1-2-4	6720-004	Thallium	7440-28-0	QCBLK52263-1	11/23/94	11/23/94	0.54	MG/KG		0.42	1
SB02-SS3-8-9.5	6720-005	Thallium	7440-28-0	QCBLK52263-1	11/23/94	11/23/94	0.77	MG/KG		0.48	1
SB-03-SS1-2-4	6720-006	Thallium	7440-28-0	QCBLK52263-1	11/23/94	11/23/94	0.59	MG/KG		0.41	1
SB-04-SS1-2-4	6720-007	Thallium	7440-28-0	QCBLK52263-1	11/23/94	11/23/94	0.53	MG/KG		0.41	1
SB05-SS2-6-8	6720-008	Thallium	7440-28-0	QCBLK52263-1	11/23/94	11/23/94	ND	MG/KG		0.42	1
SB-06-SS2-6-8	6765-002	Thallium	7440-28-0	QCBLK52263-1	11/23/94	11/23/94	0.78	MG/KG		0.44	1
SB-06-SS3-13-14	6765-003	Thallium	7440-28-0	QCBLK52263-1	11/23/94	11/23/94	ND	MG/KG		0.74	1
SB-07-SS1-2-4	6765-004	Thallium	7440-28-0	QCBLK52263-1	11/23/94	11/23/94	0.44	MG/KG		0.38	1
SB-07-SS2-4-6	6765-005	Thallium	7440-28-0	QCBLK52263-1	11/23/94	11/23/94	0.48	MG/KG		0.38	1
SB-09-SS1-0-2	6765-006	Thallium	7440-28-0	QCBLK52263-1	11/23/94	11/23/94	0.64	MG/KG		0.40	1
SB-09-SS2-6-8	6765-007	Thallium	7440-28-0	QCBLK52263-1	11/23/94	11/23/94	0.64	MG/KG		0.43	1
SB-08-SS1-0-2	6765-008	Thallium	7440-28-0	QCBLK52263-1	11/23/94	11/23/94	0.66	MG/KG		0.42	1
SB-08-SS4-16-18	6765-010	Thallium	7440-28-0	QCBLK52263-1	11/23/94	11/23/94	0.42	MG/KG		0.41	1
SB-10-SS2-6-8	6765-012	Thallium	7440-28-0	QCBLK52263-1	11/23/94	11/23/94	0.62	MG/KG		0.43	1
SB-11-SS1-0-2	6765-013	Thallium	7440-28-0	QCBLK52263-1	11/23/94	11/23/94	0.52	MG/KG		0.40	1
SB-11-SS2-4-6	6765-014	Thallium	7440-28-0	QCBLK52263-1	11/23/94	11/23/94	ND	MG/KG		0.44	1
SB-11-SS3-8-9	6765-015	Thallium	7440-28-0	QCBLK52263-1	11/23/94	11/23/94	0.59	MG/KG		0.47	1
SB-12-SS1-0-2	6765-016	Thallium	7440-28-0	QCBLK52265-1	11/23/94	11/23/94	ND	MG/KG		0.40	1
SB-12-SS3-8-9	6765-018	Thallium	7440-28-0	QCBLK52265-1	11/23/94	11/23/94	0.47	MG/KG		0.46	1
SB-13-SS1-0-2	6765-020	Thallium	7440-28-0	QCBLK52265-1	11/23/94	11/23/94	0.54	MG/KG		0.37	1
SB-13-SS3-8-10	6765-022	Thallium	7440-28-0	QCBLK52265-1	11/23/94	11/23/94	0.59	MG/KG		0.46	1
SB-14-SS1-0-2	6765-023	Thallium	7440-28-0	QCBLK52265-1	11/23/94	11/23/94	0.38	MG/KG		0.36	1
SB-14-SS2-4-6	6765-024	Thallium	7440-28-0	QCBLK52265-1	11/23/94	11/23/94	0.55	MG/KG		0.42	1
SB-15-SS1-2-4	6765-026	Thallium	7440-28-0	QCBLK52265-1	11/23/94	11/23/94	0.47	MG/KG		0.38	1
SB-15-SS2-6-8	6765-027	Thallium	7440-28-0	QCBLK52265-1	11/23/94	11/23/94	ND	MG/KG		0.45	1
SB-20-SS1-0-2	6765-029	Thallium	7440-28-0	QCBLK52265-1	11/23/94	11/23/94	ND	MG/KG		0.34	1
SB-20-SS3-8-9	6765-031	Thallium	7440-28-0	QCBLK52265-1	11/23/94	11/23/94	ND	MG/KG		0.39	1
SB-19-SS1-0-2	6765-032	Thallium	7440-28-0	QCBLK52265-1	11/23/94	11/23/94	ND	MG/KG		0.33	1

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Chesterfield, MO 63017



Category: Thallium
Method: EPA 7841
Matrix: Solid

Project: 135.08

Sample Date : 11/02/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
SB-19-SS3-6-8	6765-034	Thallium	7440-28-0	QCBLK52265-1	11/23/94	11/23/94	ND	MG/KG		0.42	1
SB-23-SS1-2-4	6765-035	Thallium	7440-28-0	QCBLK52265-1	11/23/94	11/23/94	ND	MG/KG		0.36	1
SB-23-SS2-6-8	6765-036	Thallium	7440-28-0	QCBLK52265-1	11/23/94	11/23/94	ND	MG/KG		0.41	1
SB-22-SS1-2-4	6765-037	Thallium	7440-28-0	QCBLK52265-1	11/23/94	11/23/94	ND	MG/KG		0.41	1
SB-22-SS2-6-7	6765-038	Thallium	7440-28-0	QCBLK52265-1	11/23/94	11/23/94	ND	MG/KG		0.41	1
SB-18-SS2-4-6	6765-040	Thallium	7440-28-0	QCBLK52265-1	11/23/94	11/23/94	0.50	MG/KG		0.46	1
SB-18-SS3-6-8	6765-041	Thallium	7440-28-0	QCBLK52265-1	11/23/94	11/23/94	ND	MG/KG		0.47	1
SB-16-SS1-0-2	6765-042	Thallium	7440-28-0	QCBLK52265-1	11/23/94	11/23/94	ND	MG/KG		0.37	1
SB-16-SS3-8-9	6765-044	Thallium	7440-28-0	QCBLK52265-1	11/23/94	11/23/94	ND	MG/KG		0.46	1
SB-16-SS4-10-12	6765-045	Thallium	7440-28-0	QCBLK52267-1	11/23/94	11/23/94	ND	MG/KG		0.37	1
SB-17-SS1-2-4	6765-046	Thallium	7440-28-0	QCBLK52267-1	11/23/94	11/23/94	ND	MG/KG		0.43	1
SB-17-SS3-6-8	6765-048	Thallium	7440-28-0	QCBLK52267-1	11/23/94	11/23/94	ND	MG/KG		0.48	1
SB-25-SS1-2-4	6765-049	Thallium	7440-28-0	QCBLK52267-1	11/23/94	11/23/94	ND	MG/KG		0.39	1
SB-25-SS2-6-8	6765-050	Thallium	7440-28-0	QCBLK52267-1	11/23/94	11/23/94	ND	MG/KG		0.41	1
SB-24-SS1-2-4	6765-051	Thallium	7440-28-0	QCBLK52267-1	11/23/94	11/23/94	ND	MG/KG		0.42	1
SB-24-SS2-6-8	6765-052	Thallium	7440-28-0	QCBLK52267-1	11/23/94	11/23/94	ND	MG/KG		0.46	1
SB-27-SS1-2-4	6765-053	Thallium	7440-28-0	QCBLK52267-1	11/23/94	11/23/94	ND	MG/KG		0.34	1
SB-27-SS2-6-8	6765-054	Thallium	7440-28-0	QCBLK52267-1	11/23/94	11/23/94	ND	MG/KG		0.41	1
SB-29-SS1-2-4	6765-055	Thallium	7440-28-0	QCBLK52267-1	11/23/94	11/23/94	ND	MG/KG		0.37	1
SB-29-SS2-4-6	6765-056	Thallium	7440-28-0	QCBLK52267-1	11/23/94	11/23/94	ND	MG/KG		0.40	1
SB-28-SS1-2-4	6765-057	Thallium	7440-28-0	QCBLK52267-1	11/23/94	11/23/94	ND	MG/KG		0.42	1
SB-28-SS2-6-8	6765-058	Thallium	7440-28-0	QCBLK52269-1	11/23/94	11/23/94	ND	MG/KG		0.46	1
SB-26-SS1-2-4	6765-059	Thallium	7440-28-0	QCBLK52269-1	11/23/94	11/23/94	ND	MG/KG		0.42	1
SB-26-SS2-6-8	6765-060	Thallium	7440-28-0	QCBLK52269-1	11/23/94	11/23/94	ND	MG/KG		0.43	1
SB-31-SS1-2-4	6765-061	Thallium	7440-28-0	QCBLK52269-1	11/23/94	11/23/94	ND	MG/KG		0.42	1
SB-31-SS2-6-8	6765-062	Thallium	7440-28-0	QCBLK52269-1	11/23/94	11/23/94	ND	MG/KG		0.47	1
SB-32-SS1-2-4	6765-063	Thallium	7440-28-0	QCBLK52269-1	11/23/94	11/23/94	ND	MG/KG		0.42	1
SB-32-SS2-6-8	6765-064	Thallium	7440-28-0	QCBLK52269-1	11/23/94	11/23/94	0.88	MG/KG		0.47	1
SB-30-SS1-2-4	6765-065	Thallium	7440-28-0	QCBLK52269-1	11/23/94	11/23/94	0.67	MG/KG		0.39	1
SB-30-SS2-6-8	6765-066	Thallium	7440-28-0	QCBLK52269-1	11/23/94	11/23/94	0.68	MG/KG		0.43	1
SB-33-SS1-0-2	6765-067	Thallium	7440-28-0	QCBLK52269-1	11/23/94	11/23/94	ND	MG/KG		0.39	1

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Category: Thallium
Method: EPA 7841
Matrix: Solid

Project: 135.08

Sample Date : 11/04/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
SB-33-SS3-8-10	6765-069	Thallium	7440-28-0	QCBLK52269-1	11/23/94	11/23/94	0.48	MG/KG		0.43	1
NA	QCCLS52263-1	Thallium	7440-28-0	QCBLK52263-1	11/23/94	11/23/94	107	XREC			20
NA	QCCLS52265-1	Thallium	7440-28-0	QCBLK52265-1	11/23/94	11/23/94	101	XREC			20
NA	QCCLS52267-1	Thallium	7440-28-0	QCBLK52267-1	11/23/94	11/23/94	102	XREC			20
NA	QCCLS52269-1	Thallium	7440-28-0	QCBLK52269-1	11/23/94	11/23/94	94	XREC			20
NA	QCBLK52263-1	Thallium	7440-28-0	QCBLK52263-1	11/23/94	11/23/94	ND	MG/KG		0.30	1
NA	QCBLK52265-1	Thallium	7440-28-0	QCBLK52265-1	11/23/94	11/23/94	ND	MG/KG		0.30	1
NA	QCBLK52267-1	Thallium	7440-28-0	QCBLK52267-1	11/23/94	11/23/94	ND	MG/KG		0.30	1
NA	QCBLK52269-1	Thallium	7440-28-0	QCBLK52269-1	11/23/94	11/23/94	ND	MG/KG		0.30	1

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Chesterfield, MO 63017



Project: 135.08

Category: Mercury
Method: EPA 7470
Matrix: Solid

Sample Date : 10/31/94
Receipt Date : 10/31/94
Report Date : 12/21/94

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
SB01-SS1-2-4	6720-001	Mercury	7439-97-6	QCBLK51759-1	11/17/94	11/17/94	0.15	MG/KG		0.13	1
SB-01-SS3-6-8	6720-002	Mercury	7439-97-6	QCBLK51759-1	11/17/94	11/17/94	0.22	MG/KG		0.15	1
SB-01-SS4-14-16	6720-003	Mercury	7439-97-6	QCBLK51759-1	11/17/94	11/17/94	0.17	MG/KG		0.13	1
SB-02-SS1-2-4	6720-004	Mercury	7439-97-6	QCBLK51759-1	11/17/94	11/17/94	0.17	MG/KG		0.14	1
SB02-SS3-8-9.5	6720-005	Mercury	7439-97-6	QCBLK51759-1	11/17/94	11/17/94	0.20	MG/KG		0.16	1
SB-03-SS1-2-4	6720-006	Mercury	7439-97-6	QCBLK51759-1	11/17/94	11/17/94	0.21	MG/KG		0.14	1
SB-04-SS1-2-4	6720-007	Mercury	7439-97-6	QCBLK51759-1	11/17/94	11/17/94	0.14	MG/KG		0.14	1
SB05-SS2-6-8	6720-008	Mercury	7439-97-6	QCBLK51759-1	11/17/94	11/17/94	ND	MG/KG		0.14	1
SB-06-SS2-6-8	6765-002	Mercury	7439-97-6	QCBLK51759-1	11/17/94	11/17/94	0.19	MG/KG		0.15	1
SB-06-SS3-13-14	6765-003	Mercury	7439-97-6	QCBLK51759-1	11/17/94	11/17/94	ND	MG/KG		0.25	1
SB-07-SS1-2-4	6765-004	Mercury	7439-97-6	QCBLK51759-1	11/17/94	11/17/94	0.15	MG/KG		0.13	1
SB-07-SS2-4-6	6765-005	Mercury	7439-97-6	QCBLK51759-1	11/17/94	11/17/94	0.14	MG/KG		0.13	1
SB-09-SS1-0-2	6765-006	Mercury	7439-97-6	QCBLK51759-1	11/17/94	11/17/94	0.23	MG/KG		0.13	1
SB-09-SS2-6-8	6765-007	Mercury	7439-97-6	QCBLK51759-1	11/17/94	11/17/94	0.20	MG/KG		0.14	1
SB-08-SS1-0-2	6765-008	Mercury	7439-97-6	QCBLK51759-1	11/17/94	11/17/94	0.19	MG/KG		0.14	1
SB-08-SS4-16-18	6765-010	Mercury	7439-97-6	QCBLK51759-1	11/17/94	11/17/94	0.17	MG/KG		0.14	1
SB-10-SS2-6-8	6765-012	Mercury	7439-97-6	QCBLK51759-1	11/17/94	11/17/94	ND	MG/KG		0.14	1
SB-11-SS1-0-2	6765-013	Mercury	7439-97-6	QCBLK51759-1	11/17/94	11/17/94	0.14	MG/KG		0.13	1
SB-11-SS2-4-6	6765-014	Mercury	7439-97-6	QCBLK51759-1	11/17/94	11/17/94	0.16	MG/KG		0.15	1
SB-11-SS3-8-9	6765-015	Mercury	7439-97-6	QCBLK51759-1	11/17/94	11/17/94	0.16	MG/KG		0.16	1
SB-12-SS1-0-2	6765-016	Mercury	7439-97-6	QCBLK52244-1	11/23/94	11/23/94	0.21	MG/KG		0.13	1
SB-12-SS3-8-9	6765-018	Mercury	7439-97-6	QCBLK52244-1	11/23/94	11/23/94	0.21	MG/KG		0.15	1
SB-13-SS1-0-2	6765-020	Mercury	7439-97-6	QCBLK52244-1	11/23/94	11/23/94	0.19	MG/KG		0.12	1
SB-13-SS3-8-10	6765-022	Mercury	7439-97-6	QCBLK52244-1	11/23/94	11/23/94	0.24	MG/KG		0.15	1
SB-14-SS1-0-2	6765-023	Mercury	7439-97-6	QCBLK52244-1	11/23/94	11/23/94	0.22	MG/KG		0.12	1
SB-14-SS2-4-6	6765-024	Mercury	7439-97-6	QCBLK52244-1	11/23/94	11/23/94	0.20	MG/KG		0.14	1
SB-15-SS1-2-4	6765-026	Mercury	7439-97-6	QCBLK52244-1	11/23/94	11/23/94	0.28	MG/KG		0.13	1
SB-15-SS2-6-8	6765-027	Mercury	7439-97-6	QCBLK52244-1	11/23/94	11/23/94	0.22	MG/KG		0.15	1
SB-20-SS1-0-2	6765-029	Mercury	7439-97-6	QCBLK52244-1	11/23/94	11/23/94	0.24	MG/KG		0.11	1
SB-20-SS3-8-9	6765-031	Mercury	7439-97-6	QCBLK52244-1	11/23/94	11/23/94	0.25	MG/KG		0.13	1
SB-19-SS1-0-2	6765-032	Mercury	7439-97-6	QCBLK52244-1	11/23/94	11/23/94	0.22	MG/KG		0.11	1

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Chesterfield, MO 63017



Category: Mercury
Method: EPA 7470
Matrix: Solid

Project: 135.08

Sample Date : 11/02/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
SB-19-SS3-6-8	6765-034	Mercury	7439-97-6	QCBLK52244-1	11/23/94	11/23/94	0.23	MG/KG		0.14	1
SB-23-SS1-2-4	6765-035	Mercury	7439-97-6	QCBLK52244-1	11/23/94	11/23/94	0.20	MG/KG		0.12	1
SB-23-SS2-6-8	6765-036	Mercury	7439-97-6	QCBLK52244-1	11/23/94	11/23/94	ND	MG/KG		0.14	1
SB-22-SS1-2-4	6765-037	Mercury	7439-97-6	QCBLK52244-1	11/23/94	11/23/94	0.19	MG/KG		0.14	1
SB-22-SS2-6-7	6765-038	Mercury	7439-97-6	QCBLK52244-1	11/23/94	11/23/94	0.16	MG/KG		0.14	1
SB-18-SS2-4-6	6765-040	Mercury	7439-97-6	QCBLK52244-1	11/23/94	11/23/94	0.16	MG/KG		0.15	1
SB-18-SS3-6-8	6765-041	Mercury	7439-97-6	QCBLK52245-1	11/23/94	11/23/94	0.22	MG/KG		0.16	1
SB-16-SS1-0-2	6765-042	Mercury	7439-97-6	QCBLK52245-1	11/23/94	11/23/94	ND	MG/KG		0.12	1
SB-16-SS3-8-9	6765-044	Mercury	7439-97-6	QCBLK52245-1	11/23/94	11/23/94	0.20	MG/KG		0.15	1
SB-16-SS4-10-12	6765-045	Mercury	7439-97-6	QCBLK52245-1	11/23/94	11/23/94	ND	MG/KG		0.12	1
SB-17-SS1-2-4	6765-046	Mercury	7439-97-6	QCBLK52245-1	11/23/94	11/23/94	0.23	MG/KG		0.14	1
SB-17-SS3-6-8	6765-048	Mercury	7439-97-6	QCBLK52245-1	11/23/94	11/23/94	0.35	MG/KG		0.16	1
SB-25-SS1-2-4	6765-049	Mercury	7439-97-6	QCBLK52245-1	11/23/94	11/23/94	0.16	MG/KG		0.13	1
SB-25-SS2-6-8	6765-050	Mercury	7439-97-6	QCBLK52245-1	11/23/94	11/23/94	0.48	MG/KG		0.14	1
SB-24-SS1-2-4	6765-051	Mercury	7439-97-6	QCBLK52245-1	11/23/94	11/23/94	ND	MG/KG		0.14	1
SB-24-SS2-6-8	6765-052	Mercury	7439-97-6	QCBLK52245-1	11/23/94	11/23/94	ND	MG/KG		0.15	1
SB-27-SS1-2-4	6765-053	Mercury	7439-97-6	QCBLK52245-1	11/23/94	11/23/94	0.13	MG/KG		0.11	1
SB-27-SS2-6-8	6765-054	Mercury	7439-97-6	QCBLK52245-1	11/23/94	11/23/94	0.15	MG/KG		0.14	1
SB-29-SS1-2-4	6765-055	Mercury	7439-97-6	QCBLK52245-1	11/23/94	11/23/94	ND	MG/KG		0.12	1
SB-29-SS2-4-6	6765-056	Mercury	7439-97-6	QCBLK52245-1	11/23/94	11/23/94	0.17	MG/KG		0.13	1
SB-28-SS1-2-4	6765-057	Mercury	7439-97-6	QCBLK52245-1	11/23/94	11/23/94	0.29	MG/KG		0.14	1
SB-28-SS2-6-8	6765-058	Mercury	7439-97-6	QCBLK52245-1	11/23/94	11/23/94	0.18	MG/KG		0.15	1
SB-26-SS1-2-4	6765-059	Mercury	7439-97-6	QCBLK52245-1	11/23/94	11/23/94	0.17	MG/KG		0.14	1
SB-26-SS2-6-8	6765-060	Mercury	7439-97-6	QCBLK52247-1	11/23/94	11/23/94	ND	MG/KG		0.14	1
SB-31-SS1-2-4	6765-061	Mercury	7439-97-6	QCBLK52247-1	11/23/94	11/23/94	0.15	MG/KG		0.14	1
SB-31-SS2-6-8	6765-062	Mercury	7439-97-6	QCBLK52247-1	11/23/94	11/23/94	0.65	MG/KG		0.16	1
SB-32-SS1-2-4	6765-063	Mercury	7439-97-6	QCBLK52247-1	11/23/94	11/23/94	ND	MG/KG		0.14	1
SB-32-SS2-6-8	6765-064	Mercury	7439-97-6	QCBLK52247-1	11/23/94	11/23/94	0.23	MG/KG		0.16	1
SB-30-SS1-2-4	6765-065	Mercury	7439-97-6	QCBLK52247-1	11/23/94	11/23/94	0.20	MG/KG		0.13	1
SB-30-SS2-6-8	6765-066	Mercury	7439-97-6	QCBLK52247-1	11/23/94	11/23/94	0.18	MG/KG		0.14	1
SB-33-SS1-0-2	6765-067	Mercury	7439-97-6	QCBLK52247-1	11/23/94	11/23/94	0.22	MG/KG		0.13	1



Engineering Science, Inc.
400 Woods Mill Road
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Environmental
Services

Category: Mercury
Method: EPA 7470
Matrix: Solid

Project: 135.08

Sample Date : 11/04/94
Receipt Date : 11/04/94
Report Date : 12/21/94

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
SB-33-SS3-8-10	6765-069	Mercury	7439-97-6	QCBLK52247-1	11/23/94	11/23/94	0.16	MG/KG		0.14	1
NA	QCLCS51759-1	Mercury	7439-97-6	QCBLK51759-1	11/17/94	11/17/94	117	%REC			20
NA	QCLCS52244-1	Mercury	7439-97-6	QCBLK52244-1	11/23/94	11/23/94	96	%REC			20
NA	QCLCS52245-1	Mercury	7439-97-6	QCBLK52245-1	11/23/94	11/23/94	92	%REC			20
NA	QCLCS52247-1	Mercury	7439-97-6	QCBLK52247-1	11/23/94	11/23/94	92	%REC			20
NA	QCBLK51759-1	Mercury	7439-97-6	QCBLK51759-1	11/17/94	11/17/94	ND	MG/KG		0.10	1
NA	QCBLK52244-1	Mercury	7439-97-6	QCBLK52244-1	11/23/94	11/23/94	ND	MG/KG		0.10	1
NA	QCBLK52245-1	Mercury	7439-97-6	QCBLK52245-1	11/23/94	11/23/94	ND	MG/KG		0.10	1
NA	QCBLK52247-1	Mercury	7439-97-6	QCBLK52247-1	11/23/94	11/23/94	ND	MG/KG		0.10	1

Quanterra November 30, 1994 03:18 pm
 Account: 10031 Project: 135.08 Engineering Science, Inc. QAS No. 783 Rev. 0
 Master Sample Login: 6765

Project Manager: W. Price

Draft: Final;

Entered and Reviewed by:

PM Review:

Sample Header Template:

Sample No. Client ID C-Matrix Date: Collected Received Due Shipper Rad Category Rad Sample No.
 # Comments Container Type Analysis Class Preservative Anal. Due Date Hold Date Site (Container Numbers:X Filled)
 Data:

6765-001 SB-06-SS1-2-4 Solid 01-NOV-94 10:25 04-NOV-94 09:45 02-DEC-94 FED-EX 1 Screening not Required

1 AN - Amber Glass-250ML ABT/9310/Q4 S COLD 28-NOV-94 03-MAY-95 R11A (114338:100)

6765-002 SB-06-SS2-6-8 Solid 01-NOV-94 10:50 04-NOV-94 09:45 02-DEC-94 FED-EX 1 Screening not Required

1 AN - Amber Glass-250ML ABT/9310/Q4 S COLD 28-NOV-94 03-MAY-95 R11A (114339:100)
 1 HG/7470/Q4 S COLD 28-NOV-94 29-NOV-94 R11A (114339:100)
 1 ICAPT/6010/Q4 S COLD 28-NOV-94 30-APR-95 R11A (114339:100)
 1 PM/IT/Q4 S COLD 28-NOV-94 30-APR-95 R11A (114339:100)
 1 RAD/KPA/Q4 S COLD 28-NOV-94 03-MAY-95 R11A (114339:100)
 1 SE/7740/Q4 S COLD 28-NOV-94 30-APR-95 R11A (114339:100)
 1 TL/7841/Q4 S COLD 28-NOV-94 30-APR-95 R11A (114339:100)

6765-003 SB-06-SS3-13-14 Solid 01-NOV-94 14:15 04-NOV-94 09:45 02-DEC-94 FED-EX 1 Screening not Required

1 AN - Amber Glass-250ML ABT/9310/Q4 S COLD 28-NOV-94 03-MAY-95 R11A (114340:100)
 1 HG/7470/Q4 S COLD 28-NOV-94 29-NOV-94 R11A (114340:100)
 1 ICAPT/6010/Q4 S COLD 28-NOV-94 30-APR-95 R11A (114340:100)
 1 PM/IT/Q4 S COLD 28-NOV-94 30-APR-95 R11A (114340:100)
 1 RAD/KPA/Q4 S COLD 28-NOV-94 03-MAY-95 R11A (114340:100)
 1 SE/7740/Q4 S COLD 28-NOV-94 30-APR-95 R11A (114340:100)
 1 TL/7841/Q4 S COLD 28-NOV-94 30-APR-95 R11A (114340:100)

6765-004 SB-07-SS1-2-4 Solid 01-NOV-94 12:06 04-NOV-94 09:45 02-DEC-94 FED-EX 1 Screening not Required

1 AN - Amber Glass-250ML ABT/9310/Q4 S COLD 28-NOV-94 03-MAY-95 R11A (114341:100)
 1 HG/7470/Q4 S COLD 28-NOV-94 29-NOV-94 R11A (114341:100)
 1 ICAPT/6010/Q4 S COLD 28-NOV-94 30-APR-95 R11A (114341:100)
 1 PM/IT/Q4 S COLD 28-NOV-94 30-APR-95 R11A (114341:100)
 1 RAD/KPA/Q4 S COLD 28-NOV-94 03-MAY-95 R11A (114341:100)
 1 SE/7740/Q4 S COLD 28-NOV-94 30-APR-95 R11A (114341:100)
 1 TL/7841/Q4 S COLD 28-NOV-94 30-APR-95 R11A (114341:100)

6765-005 SB-07-SS2-4-6 Solid 01-NOV-94 12:16 04-NOV-94 09:45 02-DEC-94 FED-EX 1 Screening not Required

1 AN - Amber Glass-250ML ABT/9310/Q4 S COLD 28-NOV-94 03-MAY-95 R11A (114342:100)
 1 HG/7470/Q4 S COLD 28-NOV-94 29-NOV-94 R11A (114342:100)

3*=Sample has not been rad screened.

Project Manager: W. Price

Draft: Final: Entered and Reviewed by: PM Review:

Sample Header Template:

Sample No.	Client ID	C-Matrix	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.
Comments								
# Container Type		Analysis	Class	Preservative	Anal. Due Date	Hold Date Site		(Container Numbers:X Filled)
Data:								
1		ICAPT/6010/Q4	S	COLD	28-NOV-94	30-APR-95 R11A		(114342:100)
1		PM/IT/Q4	S	COLD	28-NOV-94	30-APR-95 R11A		(114342:100)
1		RAD/KPA/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A		(114342:100)
1		SE/7740/Q4	S	COLD	28-NOV-94	30-APR-95 R11A		(114342:100)
1		TL/7841/Q4	S	COLD	28-NOV-94	30-APR-95 R11A		(114342:100)
6765-006	SB-09-SS1-0-2	Solid	01-NOV-94 13:45	04-NOV-94 09:45	02-DEC-94	FED-EX	1	Screening not Required
1 AN - Amber Glass-250ML		ABT/9310/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A		(114343:100)
1		HG/7470/Q4	S	COLD	28-NOV-94	29-NOV-94 R11A		(114343:100)
1		ICAPT/6010/Q4	S	COLD	28-NOV-94	30-APR-95 R11A		(114343:100)
1		PM/IT/Q4	S	COLD	28-NOV-94	30-APR-95 R11A		(114343:100)
1		RAD/KPA/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A		(114343:100)
1		SE/7740/Q4	S	COLD	28-NOV-94	30-APR-95 R11A		(114343:100)
1		TL/7841/Q4	S	COLD	28-NOV-94	30-APR-95 R11A		(114343:100)
6765-007	SB-09-SS2-6-8	Solid	01-NOV-94 14:00	04-NOV-94 09:45	02-DEC-94	FED-EX	1	Screening not Required
1 AN - Amber Glass-250ML		ABT/9310/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A		(114344:100)
1		HG/7470/Q4	S	COLD	28-NOV-94	29-NOV-94 R11A		(114344:100)
1		ICAPT/6010/Q4	S	COLD	28-NOV-94	30-APR-95 R11A		(114344:100)
1		PM/IT/Q4	S	COLD	28-NOV-94	30-APR-95 R11A		(114344:100)
1		RAD/KPA/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A		(114344:100)
1		SE/7740/Q4	S	COLD	28-NOV-94	30-APR-95 R11A		(114344:100)
1		TL/7841/Q4	S	COLD	28-NOV-94	30-APR-95 R11A		(114344:100)
6765-008	SB-08-SS1-0-2	Solid	01-NOV-94 14:40	04-NOV-94 09:45	02-DEC-94	FED-EX	1	Screening not Required
1 AN - Amber Glass-250ML		ABT/9310/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A		(114345:100)
1		HG/7470/Q4	S	COLD	28-NOV-94	29-NOV-94 R11A		(114345:100)
1		ICAPT/6010/Q4	S	COLD	28-NOV-94	30-APR-95 R11A		(114345:100)
1		PM/IT/Q4	S	COLD	28-NOV-94	30-APR-95 R11A		(114345:100)
1		RAD/KPA/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A		(114345:100)
1		SE/7740/Q4	S	COLD	28-NOV-94	30-APR-95 R11A		(114345:100)
1		TL/7841/Q4	S	COLD	28-NOV-94	30-APR-95 R11A		(114345:100)
6765-009	SB-08-SS2-6-8	Solid	01-NOV-94 14:50	04-NOV-94 09:45	02-DEC-94	FED-EX	1	Screening not Required
1 AN - Amber Glass-250ML		ABT/9310/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A		(114346:100)

3*=Sample has not been rad screened.

Quanterra November 30, 1994 03:18 pm
 Account: 10031 Project: 135.08 Engineering Science, Inc. QAS No. 783 Rev. 0
 Master Sample Login: 6765

Project Manager: W. Price

Draft: Final: Entered and Reviewed by: PM Review:

Sample Header Template:

Sample No. # Container Type	Client ID	C-Matrix Analysis	Date: Collected Class Preservative	Received Anal. Due Date	Due Hold Date Site	Shipper	Rad Category	Rad Sample No. (Container Numbers:X Filled)
6765-010	SB-08-SS4-16-18	Solid	01-NOV-94 15:10	04-NOV-94 09:45	02-DEC-94	FED-EX	1	Screening not Required
1 AN - Amber Glass-250ML		ABT/9310/Q4	S COLD	28-NOV-94	03-MAY-95	R11A		(114347:100)
1		HG/7470/Q4	S COLD	28-NOV-94	29-NOV-94	R11A		(114347:100)
1		ICAPT/6010/Q4	S COLD	28-NOV-94	30-APR-95	R11A		(114347:100)
1		PM/IT/Q4	S COLD	28-NOV-94	30-APR-95	R11A		(114347:100)
1		RAD/KPA/Q4	S COLD	28-NOV-94	03-MAY-95	R11A		(114347:100)
1		SE/7740/Q4	S COLD	28-NOV-94	30-APR-95	R11A		(114347:100)
1		TL/7841/Q4	S COLD	28-NOV-94	30-APR-95	R11A		(114347:100)
6765-011	SB-10-SS1-2-4	Solid	01-NOV-94 16:10	04-NOV-94 09:45	02-DEC-94	FED-EX	1	Screening not Required
1 AN - Amber Glass-250ML		ABT/9310/Q4	S COLD	28-NOV-94	03-MAY-95	R11A		(114348:100)
6765-012	SB-10-SS2-6-8	Solid	01-NOV-94 16:20	04-NOV-94 09:45	02-DEC-94	FED-EX	1	Screening not Required
1 AN - Amber Glass-250ML		ABT/9310/Q4	S COLD	28-NOV-94	03-MAY-95	R11A		(114349:100)
1		HG/7470/Q4	S COLD	28-NOV-94	29-NOV-94	R11A		(114349:100)
1		ICAPT/6010/Q4	S COLD	28-NOV-94	30-APR-95	R11A		(114349:100)
1		PM/IT/Q4	S COLD	28-NOV-94	30-APR-95	R11A		(114349:100)
1		RAD/KPA/Q4	S COLD	28-NOV-94	03-MAY-95	R11A		(114349:100)
1		SE/7740/Q4	S COLD	28-NOV-94	30-APR-95	R11A		(114349:100)
1		TL/7841/Q4	S COLD	28-NOV-94	30-APR-95	R11A		(114349:100)
6765-013	SB-11-SS1-0-2	Solid	02-NOV-94 08:00	04-NOV-94 09:45	02-DEC-94	FED-EX	1	Screening not Required
1 AN - Amber Glass-250ML		ABT/9310/Q4	S COLD	28-NOV-94	03-MAY-95	R11A		(114350:100)
1		HG/7470/Q4	S COLD	28-NOV-94	30-NOV-94	R11A		(114350:100)
1		ICAPT/6010/Q4	S COLD	28-NOV-94	01-MAY-95	R11A		(114350:100)
1		PM/IT/Q4	S COLD	28-NOV-94	01-MAY-95	R11A		(114350:100)
1		RAD/KPA/Q4	S COLD	28-NOV-94	03-MAY-95	R11A		(114350:100)
1		SE/7740/Q4	S COLD	28-NOV-94	01-MAY-95	R11A		(114350:100)
1		TL/7841/Q4	S COLD	28-NOV-94	01-MAY-95	R11A		(114350:100)
6765-014	SB-11-SS2-4-6	Solid	02-NOV-94 08:05	04-NOV-94 09:45	02-DEC-94	FED-EX	1	Screening not Required
1 AN - Amber Glass-250ML		ABT/9310/Q4	S COLD	28-NOV-94	03-MAY-95	R11A		(114351:100)
1		HG/7470/Q4	S COLD	28-NOV-94	30-NOV-94	R11A		(114351:100)

3*=Sample has not been rad screened.

Quanterra November 30, 1994 03:18 pm
 Account: 10031 Project: 135.08 Engineering Science, Inc. QAS No. 783 Rev. 0
 Master Sample Login: 6765

Project Manager: W. Price

Draft: Final: Entered and Reviewed by: PM Review:

Sample Header Template:

Sample No.	Client ID	C-Matrix	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.
Comments								
# Container Type		Analysis	Class	Preservative	Anal. Due Date	Hold Date Site		(Container Numbers:X Filled)
Data:								
1		ICAPT/6010/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A		(114351:100)
1		PM/IT/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A		(114351:100)
1		RAD/KPA/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A		(114351:100)
1		SE/7740/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A		(114351:100)
1		TL/7841/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A		(114351:100)
6765-015	SB-11-SS3-B-9	Solid	02-NOV-94 08:10	04-NOV-94 09:45	02-DEC-94	FED-EX	1	Screening not Required
1 AN - Amber Glass-250ML		ABT/9310/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A		(114352:100)
1		HG/7470/Q4	S	COLD	28-NOV-94	30-NOV-94 R11A		(114352:100)
1		ICAPT/6010/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A		(114352:100)
1		PM/IT/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A		(114352:100)
1		RAD/KPA/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A		(114352:100)
1		SE/7740/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A		(114352:100)
1		TL/7841/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A		(114352:100)
6765-016	SB-12-SS1-0-2	Solid	02-NOV-94 08:38	04-NOV-94 09:45	02-DEC-94	FED-EX	1	Screening not Required
1 AN - Amber Glass-250ML		ABT/9310/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A		(114353:100)
1		HG/7470/Q4	S	COLD	28-NOV-94	30-NOV-94 R11A		(114353:100)
1		ICAPT/6010/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A		(114353:100)
1		PM/IT/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A		(114353:100)
1		RAD/KPA/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A		(114353:100)
1		SE/7740/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A		(114353:100)
1		TL/7841/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A		(114353:100)
6765-017	SB-12-SS2-2-4	Solid	02-NOV-94 08:45	04-NOV-94 09:45	02-DEC-94	FED-EX	1	Screening not Required
1 AN - Amber Glass-250ML		ABT/9310/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A		(114354:100)
6765-018	SB-12-SS3-B-9	Solid	02-NOV-94 08:55	04-NOV-94 09:45	02-DEC-94	FED-EX	1	Screening not Required
1 AN - Amber Glass-250ML		ABT/9310/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A		(114355:100)
1		HG/7470/Q4	S	COLD	28-NOV-94	30-NOV-94 R11A		(114355:100)
1		ICAPT/6010/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A		(114355:100)
1		PM/IT/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A		(114355:100)
1		RAD/KPA/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A		(114355:100)
1		SE/7740/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A		(114355:100)
1		TL/7841/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A		(114355:100)

3*=Sample has not been rad screened.

Quanterra November 30, 1994 03:18 pm
 Account: 10031 Project: 135.08 Engineering Science, Inc. QAS No. 783 Rev. 0
 Master Sample Login: 6765

Project Manager: W. Price

Draft: Final: Entered and Reviewed by: PM Review:

Sample Header Template:

Sample No. # Data:	Comments Container Type	Client ID	C-Matrix Analysis	Date: Collected Class	Received Preservative	Due Anal. Due Date	Shipper Hold Date Site	Rad Category (Container Numbers:% Filled)	Rad Sample No.
6765-019		SB-12-SS4-10-12	Solid	02-NOV-94	09:00	04-NOV-94 09:45	02-DEC-94 FED-EX	1	Screening not Required
1	AN - Amber Glass-250ML		ABT/9310/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A	(114356:100)	
6765-020		SB-13-SS1-0-2	Solid	02-NOV-94	09:35	04-NOV-94 09:45	02-DEC-94 FED-EX	1	Screening not Required
1	AN - Amber Glass-250ML		ABT/9310/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A	(114357:100)	
1			HG/7470/Q4	S	COLD	28-NOV-94	30-NOV-94 R11A	(114357:100)	
1			ICAPT/6010/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A	(114357:100)	
1			PM/IT/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A	(114357:100)	
1			RAD/KPA/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A	(114357:100)	
1			SE/7740/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A	(114357:100)	
1			TL/7841/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A	(114357:100)	
6765-021		SB-13-SS2-6-8	Solid	02-NOV-94	09:45	04-NOV-94 09:45	02-DEC-94 FED-EX	1	Screening not Required
1	AN - Amber Glass-250ML		ABT/9310/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A	(114358:100)	
6765-022		SB-13-SS3-8-10	Solid	02-NOV-94	09:50	04-NOV-94 09:45	02-DEC-94 FED-EX	1	Screening not Required
1	AN - Amber Glass-250ML		ABT/9310/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A	(114359:100)	
1			HG/7470/Q4	S	COLD	28-NOV-94	30-NOV-94 R11A	(114359:100)	
1			ICAPT/6010/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A	(114359:100)	
1			PM/IT/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A	(114359:100)	
1			RAD/KPA/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A	(114359:100)	
1			SE/7740/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A	(114359:100)	
1			TL/7841/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A	(114359:100)	
6765-023		SB-14-SS1-0-2	Solid	02-NOV-94	10:15	04-NOV-94 09:45	02-DEC-94 FED-EX	1	Screening not Required
1	AN - Amber Glass-250ML		ABT/9310/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A	(114360:100)	
1			HG/7470/Q4	S	COLD	28-NOV-94	30-NOV-94 R11A	(114360:100)	
1			ICAPT/6010/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A	(114360:100)	
1			PM/IT/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A	(114360:100)	
1			RAD/KPA/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A	(114360:100)	
1			SE/7740/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A	(114360:100)	
1			TL/7841/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A	(114360:100)	

3*=Sample has not been rad screened.

Quanterra November 30, 1994 03:18 pm
 Account: 10031 Project: 135.08 Engineering Science, Inc. QAS No. 783 Rev. 0
 Master Sample Login: 6765

Project Manager: W. Price

Draft: Final: Entered and Reviewed by: PM Review:

Sample Header Template:

Sample No.	Client ID	C-Matrix	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.
# Comments Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:X Filled)	
6765-024	SB-14-SS2-4-6	Solid	02-NOV-94 10:20	04-NOV-94 09:45	02-DEC-94	FED-EX	1	Screening not Required
1 AN - Amber Glass-250ML	ABT/9310/Q4	S	COLD	28-NOV-94	03-MAY-95	R11A	(114361:100)	
1	HG/7470/Q4	S	COLD	28-NOV-94	30-NOV-94	R11A	(114361:100)	
1	ICAPT/6010/Q4	S	COLD	28-NOV-94	01-MAY-95	R11A	(114361:100)	
1	PM/IT/Q4	S	COLD	28-NOV-94	01-MAY-95	R11A	(114361:100)	
1	RAD/KPA/Q4	S	COLD	28-NOV-94	03-MAY-95	R11A	(114361:100)	
1	SE/7740/Q4	S	COLD	28-NOV-94	01-MAY-95	R11A	(114361:100)	
1	TL/7841/Q4	S	COLD	28-NOV-94	01-MAY-95	R11A	(114361:100)	
6765-025	SB-14-SS3-8-10	Solid	02-NOV-94 10:30	04-NOV-94 09:45	02-DEC-94	FED-EX	1	Screening not Required
1 AN - Amber Glass-250ML	ABT/9310/Q4	S	COLD	28-NOV-94	03-MAY-95	R11A	(114362:100)	
6765-026	SB-15-SS1-2-4	Solid	02-NOV-94 11:40	04-NOV-94 09:45	02-DEC-94	FED-EX	1	Screening not Required
1 AN - Amber Glass-250ML	ABT/9310/Q4	S	COLD	28-NOV-94	03-MAY-95	R11A	(114363:100)	
1	HG/7470/Q4	S	COLD	28-NOV-94	30-NOV-94	R11A	(114363:100)	
1	ICAPT/6010/Q4	S	COLD	28-NOV-94	01-MAY-95	R11A	(114363:100)	
1	PM/IT/Q4	S	COLD	28-NOV-94	01-MAY-95	R11A	(114363:100)	
1	RAD/KPA/Q4	S	COLD	28-NOV-94	03-MAY-95	R11A	(114363:100)	
1	SE/7740/Q4	S	COLD	28-NOV-94	01-MAY-95	R11A	(114363:100)	
1	TL/7841/Q4	S	COLD	28-NOV-94	01-MAY-95	R11A	(114363:100)	
6765-027	SB-15-SS2-6-8	Solid	02-NOV-94 11:50	04-NOV-94 09:45	02-DEC-94	FED-EX	1	Screening not Required
1 AN - Amber Glass-250ML	ABT/9310/Q4	S	COLD	28-NOV-94	03-MAY-95	R11A	(114364:100)	
1	HG/7470/Q4	S	COLD	28-NOV-94	30-NOV-94	R11A	(114364:100)	
1	ICAPT/6010/Q4	S	COLD	28-NOV-94	01-MAY-95	R11A	(114364:100)	
1	PM/IT/Q4	S	COLD	28-NOV-94	01-MAY-95	R11A	(114364:100)	
1	RAD/KPA/Q4	S	COLD	28-NOV-94	03-MAY-95	R11A	(114364:100)	
1	SE/7740/Q4	S	COLD	28-NOV-94	01-MAY-95	R11A	(114364:100)	
1	TL/7841/Q4	S	COLD	28-NOV-94	01-MAY-95	R11A	(114364:100)	
6765-028	SB-15-SS3-8-9	Solid	02-NOV-94 11:55	04-NOV-94 09:45	02-DEC-94	FED-EX	1	Screening not Required
1 AN - Amber Glass-250ML	ABT/9310/Q4	S	COLD	28-NOV-94	03-MAY-95	R11A	(114365:100)	

3*=Sample has not been rad screened.

Project Manager: W. Price

Draft: Final: Entered and Reviewed by: PM Review:

Sample Header Template:

Sample No. #	Comments Container Type	Client ID	C-Matrix Analysis	Date: Collected Class	Received Preservative	Due Anal. Due Date	Shipper Hold Date Site	Rad Category	Rad Sample No. (Container Numbers:% Filled)
6765-029		SB-20-SS1-0-2	Solid	02-NOV-94 13:15	04-NOV-94 09:45	02-DEC-94	FED-EX	1	Screening not Required
1	AN - Amber Glass-250ML		ABT/9310/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A		(114366:100)
1			HG/7470/Q4	S	COLD	28-NOV-94	30-NOV-94 R11A		(114366:100)
1			ICAPT/6010/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A		(114366:100)
1			PM/IT/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A		(114366:100)
1			RAD/KPA/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A		(114366:100)
1			SE/7740/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A		(114366:100)
1			TL/7841/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A		(114366:100)
6765-030		SB-20-SS2-4-6	Solid	02-NOV-94 13:30	04-NOV-94 09:45	02-DEC-94	FED-EX	1	Screening not Required
1	AN - Amber Glass-250ML		ABT/9310/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A		(114367:100)
6765-031		SB-20-SS3-8-9	Solid	02-NOV-94 13:40	04-NOV-94 09:45	02-DEC-94	FED-EX	1	Screening not Required
1	AN - Amber Glass-250ML		ABT/9310/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A		(114368:100)
1			HG/7470/Q4	S	COLD	28-NOV-94	30-NOV-94 R11A		(114368:100)
1			ICAPT/6010/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A		(114368:100)
1			PM/IT/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A		(114368:100)
1			RAD/KPA/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A		(114368:100)
1			SE/7740/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A		(114368:100)
1			TL/7841/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A		(114368:100)
6765-032		SB-19-SS1-0-2	Solid	02-NOV-94 14:10	04-NOV-94 09:45	02-DEC-94	FED-EX	1	Screening not Required
1	AN - Amber Glass-250ML		ABT/9310/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A		(114369:100)
1			HG/7470/Q4	S	COLD	28-NOV-94	30-NOV-94 R11A		(114369:100)
1			ICAPT/6010/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A		(114369:100)
1			PM/IT/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A		(114369:100)
1			RAD/KPA/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A		(114369:100)
1			SE/7740/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A		(114369:100)
1			TL/7841/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A		(114369:100)
6765-033		SB-19-SS2-4-6	Solid	02-NOV-94 14:15	04-NOV-94 09:45	02-DEC-94	FED-EX	1	Screening not Required
1	AN - Amber Glass-250ML		ABT/9310/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A		(114370:100)

3*=Sample has not been rad screened.

Quanterra November 30, 1994 03:18 pm
 Account: 10031 Project: 135.08 Engineering Science, Inc. QAS No. 783 Rev. 0
 Master Sample Login: 6765

Project Manager: W. Price

Draft: Final: Entered and Reviewed by: PM Review:

Sample Header Template:

Sample No.	Client ID	C-Matrix	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.
Comments								
# Container Type		Analysis	Class	Preservative	Anal. Due Date	Hold Date Site		(Container Numbers:X Filled)

6765-034	SB-19-SS3-6-8	Solid	02-NOV-94 14:20	04-NOV-94 09:45	02-DEC-94	FED-EX	1	Screening not Required
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1	AN - Amber Glass-250ML	ABT/9310/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A	(114371:100)
1		HG/7470/Q4	S	COLD	28-NOV-94	30-NOV-94 R11A	(114371:100)
1		ICAPT/6010/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A	(114371:100)
1		PM/IT/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A	(114371:100)
1		RAD/KPA/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A	(114371:100)
1		SE/7740/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A	(114371:100)
1		TL/7841/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A	(114371:100)

6765-035	SB-23-SS1-2-4	Solid	02-NOV-94 15:30	04-NOV-94 09:45	02-DEC-94	FED-EX	1	Screening not Required
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1	AN - Amber Glass-250ML	ABT/9310/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A	(114372:100)
1		HG/7470/Q4	S	COLD	28-NOV-94	30-NOV-94 R11A	(114372:100)
1		ICAPT/6010/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A	(114372:100)
1		PM/IT/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A	(114372:100)
1		RAD/KPA/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A	(114372:100)
1		SE/7740/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A	(114372:100)
1		TL/7841/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A	(114372:100)

6765-036	SB-23-SS2-6-8	Solid	02-NOV-94 15:40	04-NOV-94 09:45	02-DEC-94	FED-EX	1	Screening not Required
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1	AN - Amber Glass-250ML	ABT/9310/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A	(114373:100)
1		HG/7470/Q4	S	COLD	28-NOV-94	30-NOV-94 R11A	(114373:100)
1		ICAPT/6010/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A	(114373:100)
1		PM/IT/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A	(114373:100)
1		RAD/KPA/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A	(114373:100)
1		SE/7740/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A	(114373:100)
1		TL/7841/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A	(114373:100)

6765-037	SB-22-SS1-2-4	Solid	02-NOV-94 16:05	04-NOV-94 09:45	02-DEC-94	FED-EX	1	Screening not Required
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1	AN - Amber Glass-250ML	ABT/9310/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A	(114374:100)
1		HG/7470/Q4	S	COLD	28-NOV-94	30-NOV-94 R11A	(114374:100)
1		ICAPT/6010/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A	(114374:100)
1		PM/IT/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A	(114374:100)
1		RAD/KPA/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A	(114374:100)
1		SE/7740/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A	(114374:100)
1		TL/7841/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A	(114374:100)

3*=Sample has not been rad screened.

Project Manager: W. Price

Draft: Final: Entered and Reviewed by: PM Review:

Sample Header Template:

Sample No. Comments # Container Type	Client ID	C-Matrix	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.
		Analysis	Class	Preservative	Anal. Due Date	Hold Date Site		(Container Numbers:% Filled)
6765-038	SB-22-SS2-6-7	Solid	02-NOV-94 16:10	04-NOV-94 09:45	02-DEC-94	FED-EX	1	Screening not Required
1 AN - Amber Glass-250ML		ABT/9310/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A		(114375:100)
1		HG/7470/Q4	S	COLD	28-NOV-94	30-NOV-94 R11A		(114375:100)
1		ICAPT/6010/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A		(114375:100)
1		PM/IT/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A		(114375:100)
1		RAD/KPA/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A		(114375:100)
1		SE/7740/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A		(114375:100)
1		TL/7841/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A		(114375:100)
6765-039	SB-18-SS1-2-4	Solid	02-NOV-94 14:50	04-NOV-94 09:45	02-DEC-94	FED-EX	1	Screening not Required
1 AN - Amber Glass-250ML		ABT/9310/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A		(114376:100)
6765-040	SB-18-SS2-4-6	Solid	02-NOV-94 14:55	04-NOV-94 09:45	02-DEC-94	FED-EX	1	Screening not Required
1 AN - Amber Glass-250ML		ABT/9310/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A		(114377:100)
1		HG/7470/Q4	S	COLD	28-NOV-94	30-NOV-94 R11A		(114377:100)
1		ICAPT/6010/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A		(114377:100)
1		PM/IT/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A		(114377:100)
1		RAD/KPA/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A		(114377:100)
1		SE/7740/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A		(114377:100)
1		TL/7841/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A		(114377:100)
6765-041	SB-18-SS3-6-8	Solid	02-NOV-94 15:00	04-NOV-94 09:45	02-DEC-94	FED-EX	1	Screening not Required
1 AN - Amber Glass-250ML		ABT/9310/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A		(114378:100)
1		HG/7470/Q4	S	COLD	28-NOV-94	30-NOV-94 R11A		(114378:100)
1		ICAPT/6010/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A		(114378:100)
1		PM/IT/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A		(114378:100)
1		RAD/KPA/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A		(114378:100)
1		SE/7740/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A		(114378:100)
1		TL/7841/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A		(114378:100)
6765-042	SB-16-SS1-0-2	Solid	03-NOV-94 08:15	04-NOV-94 09:45	02-DEC-94	FED-EX	1	Screening not Required
1 AN - Amber Glass-250ML		ABT/9310/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A		(114379:100)
1		HG/7470/Q4	S	COLD	28-NOV-94	01-DEC-94 R11A		(114379:100)

3*=Sample has not been rad screened.

Project Manager: W. Price

Draft: Final: Entered and Reviewed by: _____

PM Review: _____

Sample Header Template: _____

Sample No.	Client ID	C-Matrix	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.
#	Comments	Analysis	Class	Preservative	Anal. Due Date	Hold Date Site	(Container Numbers:X Filled)	
1		ICAPT/6010/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114379:100)	
1		PM/IT/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114379:100)	
1		RAD/KPA/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A	(114379:100)	
1		SE/7740/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114379:100)	
1		TL/7841/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114379:100)	
6765-043	SB-16-SS2-4-6	Solid	03-NOV-94 08:25	04-NOV-94 09:45	02-DEC-94	FED-EX	1	Screening not Required
1	AN - Amber Glass-250ML	ABT/9310/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A	(114380:100)	
6765-044	SB-16-SS3-8-9	Solid	03-NOV-94 08:30	04-NOV-94 09:45	02-DEC-94	FED-EX	1	Screening not Required
1	AN - Amber Glass-250ML	ABT/9310/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A	(114381:100)	
1		HG/7470/Q4	S	COLD	28-NOV-94	01-DEC-94 R11A	(114381:100)	
1		ICAPT/6010/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114381:100)	
1		PM/IT/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114381:100)	
1		RAD/KPA/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A	(114381:100)	
1		SE/7740/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114381:100)	
1		TL/7841/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114381:100)	
6765-045	SB-16-SS4-10-12	Solid	03-NOV-94 08:40	04-NOV-94 09:45	02-DEC-94	FED-EX	1	Screening not Required
1	AN - Amber Glass-250ML	ABT/9310/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A	(114382:100)	
1		HG/7470/Q4	S	COLD	28-NOV-94	01-DEC-94 R11A	(114382:100)	
1		ICAPT/6010/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114382:100)	
1		PM/IT/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114382:100)	
1		RAD/KPA/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A	(114382:100)	
1		SE/7740/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114382:100)	
1		TL/7841/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114382:100)	
6765-046	SB-17-SS1-2-4	Solid	03-NOV-94 08:55	04-NOV-94 09:45	02-DEC-94	FED-EX	1	Screening not Required
1	AN - Amber Glass-250ML	ABT/9310/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A	(114383:100)	
1		HG/7470/Q4	S	COLD	28-NOV-94	01-DEC-94 R11A	(114383:100)	
1		ICAPT/6010/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114383:100)	
1		PM/IT/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114383:100)	
1		RAD/KPA/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A	(114383:100)	
1		SE/7740/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114383:100)	
1		TL/7841/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114383:100)	

3*=Sample has not been rad screened.

Quanterra November 30, 1994 03:18 pm
 Account: 10031 Project: 135.08 Engineering Science, Inc. QAS No. 783 Rev. 0
 Master Sample Login: 6765

Project Manager: W. Price

Draft: Final: Entered and Reviewed by: PM Review:

Sample Header Template:

Sample No. #	Comments Container Type	Client ID	C-Matrix Analysis	Date: Collected Class Preservative	Received Anal. Due Date	Due Hold Date	Shipper Site	Rad Category	Rad Sample No. (Container Numbers:% Filled)
6765-047		SB-17-SS2-4-6	Solid	03-NOV-94 09:05	04-NOV-94 09:45	02-DEC-94	FED-EX	1	Screening not Required
1	AN - Amber Glass-250ML		ABT/9310/Q4	S COLD	28-NOV-94	03-MAY-95	R11A		(114384:100)
6765-048		SB-17-SS3-6-8	Solid	03-NOV-94 09:10	04-NOV-94 09:45	02-DEC-94	FED-EX	1	Screening not Required
1	AN - Amber Glass-250ML		ABT/9310/Q4	S COLD	28-NOV-94	03-MAY-95	R11A		(114385:100)
1			HG/7470/Q4	S COLD	28-NOV-94	01-DEC-94	R11A		(114385:100)
1			ICAPT/6010/Q4	S COLD	28-NOV-94	02-MAY-95	R11A		(114385:100)
1			PM/IT/Q4	S COLD	28-NOV-94	02-MAY-95	R11A		(114385:100)
1			RAD/KPA/Q4	S COLD	28-NOV-94	03-MAY-95	R11A		(114385:100)
1			SE/7740/Q4	S COLD	28-NOV-94	02-MAY-95	R11A		(114385:100)
1			TL/7841/Q4	S COLD	28-NOV-94	02-MAY-95	R11A		(114385:100)
6765-049		SB-25-SS1-2-4	Solid	03-NOV-94 09:40	04-NOV-94 09:45	02-DEC-94	FED-EX	1	Screening not Required
1	AN - Amber Glass-250ML		ABT/9310/Q4	S COLD	28-NOV-94	03-MAY-95	R11A		(114386:100)
1			HG/7470/Q4	S COLD	28-NOV-94	01-DEC-94	R11A		(114386:100)
1			ICAPT/6010/Q4	S COLD	28-NOV-94	02-MAY-95	R11A		(114386:100)
1			PM/IT/Q4	S COLD	28-NOV-94	02-MAY-95	R11A		(114386:100)
1			RAD/KPA/Q4	S COLD	28-NOV-94	03-MAY-95	R11A		(114386:100)
1			SE/7740/Q4	S COLD	28-NOV-94	02-MAY-95	R11A		(114386:100)
1			TL/7841/Q4	S COLD	28-NOV-94	02-MAY-95	R11A		(114386:100)
6765-050		SB-25-SS2-6-8	Solid	03-NOV-94 09:55	04-NOV-94 09:45	02-DEC-94	FED-EX	1	Screening not Required
1	AN - Amber Glass-250ML		ABT/9310/Q4	S COLD	28-NOV-94	03-MAY-95	R11A		(114387:100)
1			HG/7470/Q4	S COLD	28-NOV-94	01-DEC-94	R11A		(114387:100)
1			ICAPT/6010/Q4	S COLD	28-NOV-94	02-MAY-95	R11A		(114387:100)
1			PM/IT/Q4	S COLD	28-NOV-94	02-MAY-95	R11A		(114387:100)
1			RAD/KPA/Q4	S COLD	28-NOV-94	03-MAY-95	R11A		(114387:100)
1			SE/7740/Q4	S COLD	28-NOV-94	02-MAY-95	R11A		(114387:100)
1			TL/7841/Q4	S COLD	28-NOV-94	02-MAY-95	R11A		(114387:100)
6765-051		SB-24-SS1-2-4	Solid	03-NOV-94 10:15	04-NOV-94 09:45	02-DEC-94	FED-EX	1	Screening not Required
1	AN - Amber Glass-250ML		ABT/9310/Q4	S COLD	28-NOV-94	03-MAY-95	R11A		(114388:100)
1			HG/7470/Q4	S COLD	28-NOV-94	01-DEC-94	R11A		(114388:100)

3*=Sample has not been rad screened.

Project Manager: W. Price

Draft: Final: Entered and Reviewed by:

PM Review:

Sample Header Template:

Sample No.	Client ID	C-Matrix	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.
#	Comments	Analysis	Class	Preservative	Anal. Due Date	Hold Date Site		(Container Numbers:X Filled)
Data:	Container Type							
1		ICAPT/6010/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A		(114388:100)
1		PM/IT/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A		(114388:100)
1		RAD/KPA/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A		(114388:100)
1		SE/7740/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A		(114388:100)
1		TL/7841/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A		(114388:100)
6765-052	SB-24-SS2-6-8	Solid	03-NOV-94 10:25	04-NOV-94 09:45	02-DEC-94	FED-EX	1	Screening not Required
1	AN - Amber Glass-250ML	ABT/9310/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A		(114389:100)
1		HG/7470/Q4	S	COLD	28-NOV-94	01-DEC-94 R11A		(114389:100)
1		ICAPT/6010/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A		(114389:100)
1		PM/IT/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A		(114389:100)
1		RAD/KPA/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A		(114389:100)
1		SE/7740/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A		(114389:100)
1		TL/7841/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A		(114389:100)
6765-053	SB-27-SS1-2-4	Solid	03-NOV-94 11:00	04-NOV-94 09:45	02-DEC-94	FED-EX	1	Screening not Required
1	AN - Amber Glass-250ML	ABT/9310/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A		(114390:100)
1		HG/7470/Q4	S	COLD	28-NOV-94	01-DEC-94 R11A		(114390:100)
1		ICAPT/6010/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A		(114390:100)
1		PM/IT/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A		(114390:100)
1		RAD/KPA/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A		(114390:100)
1		SE/7740/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A		(114390:100)
1		TL/7841/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A		(114390:100)
6765-054	SB-27-SS2-6-8	Solid	03-NOV-94 11:10	04-NOV-94 09:45	02-DEC-94	FED-EX	1	Screening not Required
1	AN - Amber Glass-250ML	ABT/9310/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A		(114391:100)
1		HG/7470/Q4	S	COLD	28-NOV-94	01-DEC-94 R11A		(114391:100)
1		ICAPT/6010/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A		(114391:100)
1		PM/IT/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A		(114391:100)
1		RAD/KPA/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A		(114391:100)
1		SE/7740/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A		(114391:100)
1		TL/7841/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A		(114391:100)
6765-055	SB-29-SS1-2-4	Solid	03-NOV-94 11:30	04-NOV-94 09:45	02-DEC-94	FED-EX	1	Screening not Required
1	AN - Amber Glass-250ML	ABT/9310/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A		(114392:100)
1		HG/7470/Q4	S	COLD	28-NOV-94	01-DEC-94 R11A		(114392:100)

3*=Sample has not been rad screened.

Project Manager: W. Price

Draft: Final: Entered and Reviewed by: PM Review:

Sample Header Template:

Sample No.	Client ID	C-Matrix	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.
#	Comments	Analysis	Class	Preservative	Anal. Due Date	Hold Date Site	(Container Numbers:X Filled)	
1		ICAPT/6010/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114392:100)	
1		PM/IT/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114392:100)	
1		RAD/KPA/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A	(114392:100)	
1		SE/7740/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114392:100)	
1		TL/7841/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114392:100)	
6765-056	SB-29-SS2-4-6	Solid	03-NOV-94 11:35	04-NOV-94 09:45	02-DEC-94	FED-EX	1	Screening not Required
1	AM - Amber Glass-250ML	ABT/9310/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A	(114393:100)	
1		HG/7470/Q4	S	COLD	28-NOV-94	01-DEC-94 R11A	(114393:100)	
1		ICAPT/6010/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114393:100)	
1		PM/IT/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114393:100)	
1		RAD/KPA/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A	(114393:100)	
1		SE/7740/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114393:100)	
1		TL/7841/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114393:100)	
6765-057	SB-28-SS1-2-4	Solid	03-NOV-94 12:45	04-NOV-94 09:45	02-DEC-94	FED-EX	1	Screening not Required
1	AM - Amber Glass-250ML	ABT/9310/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A	(114394:100)	
1		HG/7470/Q4	S	COLD	28-NOV-94	01-DEC-94 R11A	(114394:100)	
1		ICAPT/6010/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114394:100)	
1		PM/IT/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114394:100)	
1		RAD/KPA/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A	(114394:100)	
1		SE/7740/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114394:100)	
1		TL/7841/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114394:100)	
6765-058	SB-28-SS2-6-8	Solid	03-NOV-94 12:55	04-NOV-94 09:45	02-DEC-94	FED-EX	1	Screening not Required
1	AM - Amber Glass-250ML	ABT/9310/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A	(114395:100)	
1		HG/7470/Q4	S	COLD	28-NOV-94	01-DEC-94 R11A	(114395:100)	
1		ICAPT/6010/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114395:100)	
1		PM/IT/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114395:100)	
1		RAD/KPA/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A	(114395:100)	
1		SE/7740/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114395:100)	
1		TL/7841/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114395:100)	
6765-059	SB-26-SS1-2-4	Solid	03-NOV-94 13:45	04-NOV-94 09:45	02-DEC-94	FED-EX	1	Screening not Required
1	AM - Amber Glass-250ML	ABT/9310/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A	(114396:100)	
1		HG/7470/Q4	S	COLD	28-NOV-94	01-DEC-94 R11A	(114396:100)	

3*=Sample has not been rad screened.

Project Manager: W. Price

Draft: Final: Entered and Reviewed by:

PM Review:

Sample Header Template:

Sample No.	Client ID	C-Matrix	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.
#	Comments	Analysis	Class	Preservative	Anal. Due Date	Hold Date Site		(Container Numbers:X Filled)
1		ICAPT/6010/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A		(114396:100)
1		PM/IT/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A		(114396:100)
1		RAD/KPA/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A		(114396:100)
1		SE/7740/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A		(114396:100)
1		TL/7841/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A		(114396:100)
6765-060	SB-26-SS2-6-8	Solid	03-NOV-94 13:55	04-NOV-94 09:45	02-DEC-94	FED-EX	1	Screening not Required
1	AM - Amber Glass-250ML	ABT/9310/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A		(114397:100)
1		HG/7470/Q4	S	COLD	28-NOV-94	01-DEC-94 R11A		(114397:100)
1		ICAPT/6010/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A		(114397:100)
1		PM/IT/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A		(114397:100)
1		RAD/KPA/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A		(114397:100)
1		SE/7740/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A		(114397:100)
1		TL/7841/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A		(114397:100)
6765-061	SB-31-SS1-2-4	Solid	03-NOV-94 14:15	04-NOV-94 09:45	02-DEC-94	FED-EX	1	Screening not Required
1	AM - Amber Glass-250ML	ABT/9310/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A		(114398:100)
1		HG/7470/Q4	S	COLD	28-NOV-94	01-DEC-94 R11A		(114398:100)
1		ICAPT/6010/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A		(114398:100)
1		PM/IT/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A		(114398:100)
1		RAD/KPA/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A		(114398:100)
1		SE/7740/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A		(114398:100)
1		TL/7841/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A		(114398:100)
6765-062	SB-31-SS2-6-8	Solid	03-NOV-94 14:25	04-NOV-94 09:45	02-DEC-94	FED-EX	1	Screening not Required
1	AM - Amber Glass-250ML	ABT/9310/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A		(114399:100)
1		HG/7470/Q4	S	COLD	28-NOV-94	01-DEC-94 R11A		(114399:100)
1		ICAPT/6010/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A		(114399:100)
1		PM/IT/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A		(114399:100)
1		RAD/KPA/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A		(114399:100)
1		SE/7740/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A		(114399:100)
1		TL/7841/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A		(114399:100)
6765-063	SB-32-SS1-2-4	Solid	03-NOV-94 14:45	04-NOV-94 09:45	02-DEC-94	FED-EX	1	Screening not Required
1	AM - Amber Glass-250ML	ABT/9310/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A		(114400:100)
1		HG/7470/Q4	S	COLD	28-NOV-94	01-DEC-94 R11A		(114400:100)

3*=Sample has not been rad screened.

Project Manager: W. Price

Draft: Final: Entered and Reviewed by: PM Review:

Sample Header Template:

Sample No.	Client ID	C-Matrix	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.
#	Comments	Analysis	Class	Preservative	Anal. Due Date	Hold Date Site		(Container Numbers:X Filled)
#	Container Type							
Data:								
1		ICAPT/6010/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A		(114400:100)
1		PM/IT/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A		(114400:100)
1		RAD/KPA/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A		(114400:100)
1		SE/7740/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A		(114400:100)
1		TL/7841/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A		(114400:100)
6765-064	SB-32-SS2-6-8	Solid	03-NOV-94 14:50	04-NOV-94 09:45	02-DEC-94	FED-EX	1	Screening not Required
1	AN - Amber Glass-250ML	ABT/9310/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A		(114401:100)
1		HG/7470/Q4	S	COLD	28-NOV-94	01-DEC-94 R11A		(114401:100)
1		ICAPT/6010/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A		(114401:100)
1		PM/IT/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A		(114401:100)
1		RAD/KPA/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A		(114401:100)
1		SE/7740/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A		(114401:100)
1		TL/7841/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A		(114401:100)
6765-065	SB-30-SS1-2-4	Solid	03-NOV-94 15:05	04-NOV-94 09:45	02-DEC-94	FED-EX	1	Screening not Required
1	AN - Amber Glass-250ML	ABT/9310/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A		(114402:100)
1		HG/7470/Q4	S	COLD	28-NOV-94	01-DEC-94 R11A		(114402:100)
1		ICAPT/6010/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A		(114402:100)
1		PM/IT/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A		(114402:100)
1		RAD/KPA/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A		(114402:100)
1		SE/7740/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A		(114402:100)
1		TL/7841/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A		(114402:100)
6765-066	SB-30-SS2-6-8	Solid	03-NOV-94 15:15	04-NOV-94 09:45	02-DEC-94	FED-EX	1	Screening not Required
1	AN - Amber Glass-250ML	ABT/9310/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A		(114403:100)
1		HG/7470/Q4	S	COLD	28-NOV-94	01-DEC-94 R11A		(114403:100)
1		ICAPT/6010/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A		(114403:100)
1		PM/IT/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A		(114403:100)
1		RAD/KPA/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A		(114403:100)
1		SE/7740/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A		(114403:100)
1		TL/7841/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A		(114403:100)
6765-067	SB-33-SS1-0-2	Solid	04-NOV-94 08:05	04-NOV-94 09:45	02-DEC-94	FED-EX	1	Screening not Required
1	AN - Amber Glass-250ML	ABT/9310/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A		(114404:100)
1		HG/7470/Q4	S	COLD	28-NOV-94	02-DEC-94 R11A		(114404:100)

3*=Sample has not been rad screened.

Project Manager: W. Price

Draft: Final: Entered and Reviewed by:

PM Review:

Sample Header Template:

Sample No.	Client ID	C-Matrix	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.
#	Comments	Analysis	Class	Preservative	Anal. Due Date	Hold Date Site	(Container Numbers:X Filled)	
1		ICAPT/6010/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A	(114404:100)	
1		PM/IT/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A	(114404:100)	
1		RAD/KPA/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A	(114404:100)	
1		SE/7740/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A	(114404:100)	
1		TL/7841/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A	(114404:100)	
6765-068	SB-33-SS2-4-6	Solid	04-NOV-94 08:10	04-NOV-94 09:45	02-DEC-94	FED-EX	1	Screening not Required
1	AN - Amber Glass-250ML	ABT/9310/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A	(114405:100)	
6765-069	SB-33-SS3-8-10	Solid	04-NOV-94 08:15	04-NOV-94 09:45	02-DEC-94	FED-EX	1	Screening not Required
1	AN - Amber Glass-250ML	ABT/9310/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A	(114406:100)	
1		HG/7470/Q4	S	COLD	28-NOV-94	01-DEC-94 R11A	(114406:100)	
1		ICAPT/6010/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114406:100)	
1		PM/IT/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114406:100)	
1		RAD/KPA/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A	(114406:100)	
1		SE/7740/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114406:100)	
1		TL/7841/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114406:100)	

3*=Sample has not been rad screened.

Reasons

400

ENGINEERING-SCIENCE

WOODS MILL ROAD SOUTH, SUITE 150 330

CHESTERFIELD, MISSOURI 63017

(314) 576-7330 FAX (314) 576-2702

Temp 6°C cur #B243

Chain-of Custody Record

No. 01259

PROJ. NO.		PROJECT NAME/LOCATION				NO. OF CON- TAINERS	PARAMETER						REMARKS
SAMPLERS: (Signature)							Gross wt. ± 0.3g	Total U.L.	TAL Metals	Type	Containers		
STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION								
	11-14	1025		X	SB06-SS1-2-4	1	X					Soil 8oz AG 100%	
	"	1050		X	SB06-SS2-6-8	1	X	X	X				
	"	1115		X	SB06-SS3-13-14	1	X	X	X				
	"	1206		X	SB-07-SS1-2-4	1	X	X	X				
	"	1215		X	SB07-SS2-4-6	1	X	X	X				
	"	1345		X	SB09-SS1-0-2	1	X	X	X			Soil 8oz AG	
	"	1400		X	SB09-SS2-6-8	1	X	X	X				
	"	1440		X	SB08-SS1-0-2	1	X	X	X				
	"	1450		X	SB08-SS2-6-8	1	X						
	"	1455		X	SB08-SS3-8-10	1	X	X	X			Sample Not Submitted	
	"	1510		X	SB08-SS4-16-18	1	X	X	X				
	"	1610		X	SB-10-SS1-2-4	1	X						
	"	1620		X	SB-10-SS2-6-8	1	X	X	X			Soil 8oz AG 100%	
Relinquished by: (Signature)						Date / Time		Received by: (Signature)		Date / Time		Received by: (Signature)	
La Jordan						11-4-74 1045		Michael Jackson					
Relinquished by: (Signature)						Date / Time		Received by: (Signature)		Date / Time		Received by: (Signature)	
						11-4-94 0945		Rich Weber					
Relinquished by: (Signature)						Date / Time		Received for Laboratory by: (Signature)		Date / Time		Remarks	
												Method of Shipment: _____ Airbill #: _____ Laboratory: _____ Cooler #: _____	

Distribution Original Accompanies Shipment. Copy returned with Report.

MSD 000344

Parsons **ENGINEERING-SCIENCE**
 400 425 WOODS MILL ROAD SOUTH, SUITE 150 330
 CHESTERFIELD, MISSOURI 63017
 (314) 576-7330 FAX (314) 576-2702

Temp 6°C cur# 2243

No. 01260

Chain-of Custody Record

PROJ. NO.		PROJECT NAME/LOCATION		NO. OF CON-TAINERS		PARAMETER						REMARKS		
726589		MSD Ash Pile, Amelia St., St Louis Mo				Gross α+β	Total α	TAL Metals	Type	Containers	% Full			
SAMPLERS: (Signature) <i>Lee Gordy</i>														
STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION									
	11-2	0800		X	SB-11-SS1-0-2	1	X	X	X					
	11-2	0805		X	SB-11-SS2-4-6	1	X	X	X					
	11-2	0810		X	SB-11-SS3-8-9	1	X	X	X					
	11-2	0838		X	SB-12-SS1-0-2	1	X	X	X					
	11-2	0845		X	SB-12-SS2-2-4	1	X							
	11-2	0855		X	SB-12-SS3-8-9	1	X	X	X					
	11-2	0900		X	SB-12-SS4-10-12	1	X							
	11-2	0935		X	SB-13-SS1-0-2	1	X	X	X					
	11-2	0945		X	SB-13-SS2-6-8	1	X							
	11-2	0950		X	SB-13-SS3-8-10	1	X	X	X					
	11-2	1015		X	SB-14-SS1-0-2	1	X	X	X					
	11-2	1020		X	SB-14-SS2-4-6	1	X	X	X			100%		
	11-2	1030		X	SB-14-SS3-8-10	1	X					50%		
	11-2	1140		X	SB-15-SS1-2-4	1	X	X	X			100%		
	11-2	1150		X	SB-15-SS2-6-8	1	X	X	X			100%		
Relinquished by: (Signature) <i>Lee Gordy</i>			Date / Time 11-4-94 / 1045		Received by: (Signature) <i>Michael Jackson</i>			Relinquished by: (Signature)			Date / Time		Received by: (Signature)	
Relinquished by: (Signature)			Date / Time 11-4-94 / 0945		Received by: (Signature) <i>Mike Weber</i>			Relinquished by: (Signature)			Date / Time		Received by: (Signature)	
Relinquished by: (Signature)			Date / Time		Received for Laboratory by: (Signature)			Date / Time		Remarks Method of Shipment: _____ Airbill #: _____ Laboratory: _____ Cooler #: _____				

Distribution Original Accompanies Shipment. Copy returned with Report.

MSD 000345

Parsons ENGINEERING-SCIENCE

400 ~~425~~ WOODS MILL ROAD SOUTH, SUITE 450-330
 CHESTERFIELD, MISSOURI 63017
 (314) 576-7330 FAX (314) 576-2702

Temp 6°C
 C/R #2243

No. 01261

Chain-of Custody Record

PROJ. NO.		PROJECT NAME/LOCATION				NO. OF CONTAINERS	PARAMETER						REMARKS
726589		MSD Ash Pile Angelka St St Louis					<div style="display: flex; justify-content: space-between;"> <div>Gross wt B</div> <div>Total U</div> <div>TAL Mch 15</div> <div>Type</div> <div>Containers</div> <div>% Full</div> </div>						
SAMPLERS: (Signature) <i>Lee Gorden</i>													
STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION								
	11-2	1155		X	SB-15-SS3-8-9	1	X					Soil 802 AG	100%
	11-2	1315		X	SB-20-SS1-0-2	1	X	X	X				
	11-2	1330		X	SB-20-SS2-4-6	1	X						
	11-2	1340		X	SB-20-SS3-8-9	1	X	X	X				
	11-2	1410		X	SB-19-SS1-0-2	1	X	X	X				100%
	11-2	1415		X	SB-19-SS2-4-6	1	X						80%
	11-2	1420		X	SB-19-SS3-6-8	1	X	X	X				100%
	11-2	1530		X	SB-23-SS1-2-4	1	X	X	X				
	11-2	1540		X	SB-23-SS2-6-8	1	X	X	X				
	11-2	1605		X	SB-22-SS1-2-4	1	X	X	X				
	11-2	1610		X	SB-22-SS2-6-7	1	X	X	X				100%
	11-2	1450		X	SB-18-SS1-2-4	1	X						50%
	11-2	1455		X	SB-18-SS2-4-6	1	X	X	X				100%
	11-2	1500		X	SB-18-SS3-6-8	1	X	X	X			Soil 802 AG	100%

Relinquished by: (Signature) <i>Lee Gorden</i>	Date / Time 10-4-94 1045	Received by: (Signature) <i>Michael Jackson</i>	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time 11-4-94 0945	Received by: (Signature) <i>Rich Weber</i>	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks Method of Shipment: _____ Airbill #: _____ Laboratory: _____ Cooler #: _____	

Distribution Original Accompanies Shipments. Copy returned with Report.

MSD 000346

ENGINEERING-SCIENCE

400425 WOODS MILL ROAD SOUTH, SUITE 150 330
CHESTERFIELD, MISSOURI 63017
(314) 576-7330 FAX (314) 576-2702

Temp 3°C Wt # 224,

No. 01262

Chain-of Custody Record

PROJ. NO.		PROJECT NAME/LOCATION				NO. OF CONTAINERS	PARAMETER					REMARKS	
726589		MSD Ash Pile, Angelica St. St Louis					Gross wt	Total U	TAL Metals	Type	Container		
SAMPLERS (Signature) <i>Lee Gordon</i>													
STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION								
	11-3	0815		X	SB-16-SS1-0-2	1	X	X	X	Soil 802A 100%			
	11-3	0825		X	SB-16-SS2-4-6	1	X						
	11-3	0830		X	SB-16-SS3-8-9	1	X	X	X				
	11-3	0840		X	SB-16-SS4-10-12	1	X	X	X				
	11-3	0845		X	SB-17-SS1-2-4	1	X	X	X				
	11-3	0905		X	SB-17-SS2-4-6	1	X						
	11-3	0910		X	SB-17-SS3-6-8	1	X	X	X				
	11-3	0940		X	SB-25-SS1-2-4	1	X	X	X				
	11-3	0955		X	SB-25-SS2-6-8	1	X	X	X				
	11-3	1015		X	SB-24-SS1-2-4	1	X	X	X				
	11-3	1025		X	SB-24-SS2-6-8	1	X	X	X				
	11-3	1100		X	SB-27-SS1-2-4	1	X	X	X				
	11-3	1110		X	SB-27-SS2-6-8	1	X	X	X				
	11-3	1130		X	SB-29-SS1-2-4	1	X	X	X				
	11-3	1135		X	SB-29-SS2-4-6	1	X	X	X	Soil 802A 100%			
Relinquished by: (Signature) <i>Lee Gordon</i>			Date / Time 11-4-94 1045		Received by: (Signature) <i>Michael Jackson</i>		Relinquished by: (Signature)			Date / Time		Received by: (Signature)	
Relinquished by: (Signature) <i>Rich Wilber</i>			Date / Time 11-4-94 1045		Received by: (Signature) <i>Rich Wilber</i>		Relinquished by: (Signature)			Date / Time		Received by: (Signature)	
Relinquished by: (Signature)			Date / Time		Received for Laboratory by: (Signature)		Date / Time			Remarks			
Method of Shipment: _____													
Airbill #: _____													
Laboratory: _____													
Cooler #: _____													

Distribution Original Accompanies Shipment. Copy returned with Report.

MSD 000347

ENGINEERING-SCIENCE

400 425 WOODS MILL ROAD SOUTH, SUITE 450 330 Temp 3°C 411# 2241
 CHESTERFIELD, MISSOURI 63017
 (314) 576-7330 FAX (314) 576-2702

No. 01263

Chain-of Custody Record

PROJ. NO.		PROJECT NAME/LOCATION		NO. OF CONTAINERS	PARAMETER						REMARKS
726589		MSD Ash Pile Angelica St. St Louis			Gross wt	Total wt	TAL Metals	Type	Container	% Full	
SAMPLER'S: (Signature) Lee Gorday											
STA. NO.	DATE	TIME	COMPL.	GRAB.	STATION LOCATION						
	11-3	1245		X	SB-28-SS1-2-4	1	X	X	X	Soil 80% AG 100%	
	11-3	1255		X	SB-28-SS2-6-8	1	X	X	X		
	11-3	1345		X	SB-26-SS1-2-4	1	X	X	X		
	11-3	1355		X	SB-26-SS2-6-8	1	X	X	X		
	11-3	1415		X	SB-31-SS1-2-4	1	X	X	X		
	11-3	1425		X	SB-31-SS2-6-8	1	X	X	X		
	11-3	1445		X	SB-32-SS1-2-4	1	X	X	X		
	11-3	1450		X	SB-32-SS2-6-8	1	X	X	X		
	11-3	1505		X	SB-30-SS1-2-4	1	X	X	X		
	11-3	1515		X	SB-30-SS2-6-8	1	X	X	X		
	11-4	0805		X	SB-33-SS1-0-2	1	X	X	X		
	11-4	0810		X	SB-33-SS2-6-8	1	X				
	11-4	0815		X	SB-33-SS3-8-10	1	X	X	X	Soil 80% AG 100%	

Relinquished by: (Signature) Lee Gorday	Date / Time 11-4-94 1045	Received by: (Signature) Michael Jackson	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time 11-4-94 1045	Received by: (Signature) Rick Wilson	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks Method of Shipment: _____ Airbill #: _____ Laboratory: _____ Cooler #: _____	

Distribution Original Accompanies Shipment. Copy returned with Report.

MSD 000348

CONVERSATION RECORD

TYPE

☐ VISIT

☐ CONFERENCE

TIME
3:30

DATE
11/7

PROJECT NO.

Location of Visit/Conference:

NAME OF PERSON(S) CONTACTED OR IN
CONTACT WITH YOU

ORGANIZATION (Office, dept.,
bureau, etc.)

☒ TELEPHONE

☐ INCOMING

☒ OUTGOING

TELEPHONE NO.

ROUTING
NAME/SYMBOL

INT

SUBJECT

Lee Garding

unlabeled sample

SUMMARY

told to go w/ CO's Garb

ACTION REQUIRED

NAME OF PERSON DOCUMENTING CONVERSATION

SIGNATURE

DATE

ACTION TAKEN

11/7/94

SIGNATURE

TITLE

DATE

C.U.R. and C.U.C.
COPIED TO: OK/WP
DATE: 11-4-94
TIME: 1:50
BY: Rich Willey

Condition Upon Receipt Variance Report
St. Louis Laboratory

Work Order No.: 67645

Client: _____

Project No: 135.08

Analysis Requested: Refer to RFA/COC

Client Sample Numbers Affected: Entire Login

Date: 11-4-94 0945

Initiated by: Rich Willey

RFA/COC Numbers: 01259, 01260, 01261

Condition/Variance (Check all that apply): Circle Number to Denote that Item was Evaluated. "NA" = "Not Applicable".

1. <input checked="" type="checkbox"/> NA Not enough sample received for proper analysis. Received approximately: _____	8. <input type="checkbox"/> Custody tape disturbed/broken/missing.
2. <input type="checkbox"/> Sample received broken/leaking.	9. <input type="checkbox"/> NA Sample splits performed by lab.
3. <input type="checkbox"/> Sample received without proper preservative. <input type="checkbox"/> Cooler temperature not within 4°C ± 2°C Record temperature: <u>6°C</u>	10. <input type="checkbox"/> NA Volatile sample received with approximately _____ mm headspace.
<input type="checkbox"/> pH _____	11. <input checked="" type="checkbox"/> Sample ID on container does not match sample ID on paperwork. Explain: <u>See Note</u>
<input type="checkbox"/> other: _____	12. <input type="checkbox"/> All coolers on airbill not received with shipment.
4. <input type="checkbox"/> Sample received in improper container.	13. <input type="checkbox"/> Other (explain below): <u>Shipping containers not rad surveyed.</u>
5. <input type="checkbox"/> Sample received without proper paperwork. Explain: _____	
6. <input type="checkbox"/> Paperwork received without sample.	
7. <input type="checkbox"/> No sample ID on sample container.	

SB1
Sample #s: SB-14-SS02-4-6, SB-13-SS02-6-8, SB-15-SS02-6-8 Don't Match
Paperwork #s: SB-14-SS2-4-6, SB-13-SS2-6-8, SB-15-SS2-6-8 Don't Match
Sample #s: SB-16-SS02-4-6, SB-17-SS02-4-6, SB-18-SS02-4-6 Don't Match
Paperwork #s: SB-16-SS2-4-6, SB-17-SS2-4-6, SB-18-SS2-4-6 Don't Match
Sample #s: SB-19-SS02-4-6, SB-20-SS02-4-6, SB-29-SS2-6-8 Don't Match
Paperwork #s: SB-19-SS2-4-6, SB-20-SS2-4-6, SB-29-SS2-4-6 Don't Match
Corrective Action: _____

☐ Client's Name: _____ Informed verbally on: _____ By: _____
☐ Client's Name: _____ Informed in writing on: _____ By: _____
☐ Sample(s) processed "as is". Comments: _____
☐ Sample(s) on hold until: _____ If released, notify: _____

Sample Control Supervisor Review: (or designate) _____ Date: _____

Project Management Review: _____ Date: _____

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE



Environmental
Services

C.U.R. and C.U.C.

COPIED TO: OK/WP
DATE: 11-4-94
TIME: 1122
BY: Rick Weber

Condition Upon Receipt Variance Report
St. Louis Laboratory

Work Order No.: _____

Client: _____

Date: 11-4-94 1045

Project No: _____

Initiated by: Rick Weber

Analysis Requested: Refer to RFA/COC

RFA/COC Numbers: 01262, 01263

Client Sample Numbers Affected: Entire Login

Condition/Variance (Check all that apply): Circle Number to Denote that Item was Evaluated. "NA" = "Not Applicable".

1. NA	Not enough sample received for proper analysis. Received approximately: _____	(8)	<input type="checkbox"/>	Custody tape disturbed/broken/missing.	
(2)	<input type="checkbox"/>	Sample received broken/leaking.	9.	NA	Sample splits performed by lab.
(3)	<input type="checkbox"/>	Sample received without proper preservative.	10.	NA	Volatile sample received with approximately _____ mm headspace.
	<input type="checkbox"/>	Cooler temperature not within $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$ Record temperature: <u>30C</u>	(11)	<input type="checkbox"/>	Sample ID on container does not match sample ID on paperwork. Explain: _____ _____
	<input type="checkbox"/>	pH _____			
	<input type="checkbox"/>	other: _____			
(4)	<input type="checkbox"/>	Sample received in improper container.	(12)	<input type="checkbox"/>	All coolers on airbill not received with shipment.
(5)	<input type="checkbox"/>	Sample received without proper paperwork. Explain: _____ _____	13.	<input type="checkbox"/>	Other (explain below): <u>Shipping containers not rad surveyed.</u> _____ _____
(6)	<input type="checkbox"/>	Paperwork received without sample.			
(7)	<input type="checkbox"/>	No sample ID on sample container.			

Notes:

Corrective Action:

- ☐ Client's Name: _____ Informed verbally on: _____ By: _____
- ☐ Client's Name: _____ Informed in writing on: _____ By: _____
- ☐ Sample(s) processed "as is". Comments: _____
- ☐ Sample(s) on hold until: _____ If released, notify: _____

Sample Control Supervisor Review: (or designate) _____ Date: _____

Project Management Review: _____ Date: _____

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

Quanterra November 23, 1994 11:40 am
Account: 10031 Project: 135.08 Engineering Science, Inc. QAS No. 783 Rev. 0
Master Sample Login: 6720

Project Manager: W. Price

Draft: Final:

Entered and Reviewed by:

PM Review:

Sample Header Template:

Sample No. Client ID C-Matrix Date: Collected Received Due Shipper Rad Category Rad Sample No.
Comments Container Type Analysis Class Preservative Anal. Due Date Hold Date Site (Container Numbers:X Filled)
Data:

6720-001 SB01-SS1-2-4 Solid 31-OCT-94 09:15 31-OCT-94 15:45 30-NOV-94 CLIENT 1 Screening not Required

1	GN - Glass Jar-250ML	ABT/9310/Q4	S	COLD	23-NOV-94	29-APR-95 \$15F	(113510:100)
1		HG/7470/Q4	S	COLD	23-NOV-94	28-NOV-94 \$15F	(113510:100)
1		ICAPT/6010/Q4	S	COLD	23-NOV-94	29-APR-95 \$15F	(113510:100)
1		PM/IT/Q4	S	COLD	28-NOV-94	29-APR-95 \$15F	(113510:100)
1		RAD/KPA/Q4	S	COLD	23-NOV-94	29-APR-95 \$15F	(113510:100)
1		SE/7740/Q4	S	COLD	23-NOV-94	29-APR-95 \$15F	(113510:100)
1		TL/7841/Q4	S	COLD	23-NOV-94	29-APR-95 \$15F	(113510:100)

6720-002 SB-01-SS3-6-8 Solid 31-OCT-94 09:40 31-OCT-94 15:45 30-NOV-94 CLIENT 1 Screening not Required

1	GN - Glass Jar-250ML	ABT/9310/Q4	S	COLD	23-NOV-94	29-APR-95 \$15F	(113512:100)
1		HG/7470/Q4	S	COLD	23-NOV-94	28-NOV-94 \$15F	(113512:100)
1		ICAPT/6010/Q4	S	COLD	23-NOV-94	29-APR-95 \$15F	(113512:100)
1		PM/IT/Q4	S	COLD	28-NOV-94	29-APR-95 \$15F	(113512:100)
1		RAD/KPA/Q4	S	COLD	23-NOV-94	29-APR-95 \$15F	(113512:100)
1		SE/7740/Q4	S	COLD	23-NOV-94	29-APR-95 \$15F	(113512:100)
1		TL/7841/Q4	S	COLD	23-NOV-94	29-APR-95 \$15F	(113512:100)

6720-003 SB-01-SS4-14-16 Solid 31-OCT-94 09:40 31-OCT-94 15:45 30-NOV-94 CLIENT 1 Screening not Required

1	GN - Glass Jar-250ML	ABT/9310/Q4	S	COLD	23-NOV-94	29-APR-95 \$15F	(113513:100)
1		HG/7470/Q4	S	COLD	23-NOV-94	28-NOV-94 \$15F	(113513:100)
1		ICAPT/6010/Q4	S	COLD	23-NOV-94	29-APR-95 \$15F	(113513:100)
1		PM/IT/Q4	S	COLD	28-NOV-94	29-APR-95 \$15F	(113513:100)
1		RAD/KPA/Q4	S	COLD	23-NOV-94	29-APR-95 \$15F	(113513:100)
1		SE/7740/Q4	S	COLD	23-NOV-94	29-APR-95 \$15F	(113513:100)
1		TL/7841/Q4	S	COLD	23-NOV-94	29-APR-95 \$15F	(113513:100)

6720-004 SB-02-SS1-2-4 Solid 31-OCT-94 10:20 31-OCT-94 15:45 30-NOV-94 CLIENT 1 Screening not Required

1	GN - Glass Jar-250ML	ABT/9310/Q4	S	COLD	23-NOV-94	29-APR-95 \$15F	(113514:100)
1		HG/7470/Q4	S	COLD	23-NOV-94	28-NOV-94 \$15F	(113514:100)
1		ICAPT/6010/Q4	S	COLD	23-NOV-94	29-APR-95 \$15F	(113514:100)
1		PM/IT/Q4	S	COLD	28-NOV-94	29-APR-95 \$15F	(113514:100)
1		RAD/KPA/Q4	S	COLD	23-NOV-94	29-APR-95 \$15F	(113514:100)
1		SE/7740/Q4	S	COLD	23-NOV-94	29-APR-95 \$15F	(113514:100)
1		TL/7841/Q4	S	COLD	23-NOV-94	29-APR-95 \$15F	(113514:100)

3*=Sample has not been rad screened.

Quanterra November 23, 1994 11:40 am
 Account: 10031 Project: 135.08 Engineering Science, Inc. QAS No. 783 Rev. 0
 Master Sample Login: 6720

Project Manager: W. Price

Draft: Final: Entered and Reviewed by: PM Review:

Sample Header Template:

Sample No.	Client ID	C-Matrix	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.
# Comments Container Type		Analysis	Class Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:X Filled)	
6720-005	S802-SS3-8-9.5	Solid	31-OCT-94 10:40	31-OCT-94 15:45	30-NOV-94	CLIENT	1	Screening not Required
1 GN - Glass Jar-250ML		ABT/9310/Q4	S COLD	23-NOV-94	29-APR-95	S15F	(113515:100)	
1		HG/7470/Q4	S COLD	23-NOV-94	28-NOV-94	S15F	(113515:100)	
1		ICAPT/6010/Q4	S COLD	23-NOV-94	29-APR-95	S15F	(113515:100)	
1		PM/IT/Q4	S COLD	28-NOV-94	29-APR-95	S15F	(113515:100)	
1		RAD/KPA/Q4	S COLD	23-NOV-94	29-APR-95	S15F	(113515:100)	
1		SE/7740/Q4	S COLD	23-NOV-94	29-APR-95	S15F	(113515:100)	
1		TL/7841/Q4	S COLD	23-NOV-94	29-APR-95	S15F	(113515:100)	
6720-006	S803-SS1-2-4	Solid	31-OCT-94 11:10	31-OCT-94 15:45	30-NOV-94	CLIENT	1	Screening not Required
1 GN - Glass Jar-250ML		ABT/9310/Q4	S COLD	23-NOV-94	29-APR-95	S15F	(113516:100)	
1		HG/7470/Q4	S COLD	23-NOV-94	28-NOV-94	S15F	(113516:100)	
1		ICAPT/6010/Q4	S COLD	23-NOV-94	29-APR-95	S15F	(113516:100)	
1		PM/IT/Q4	S COLD	28-NOV-94	29-APR-95	S15F	(113516:100)	
1		RAD/KPA/Q4	S COLD	23-NOV-94	29-APR-95	S15F	(113516:100)	
1		SE/7740/Q4	S COLD	23-NOV-94	29-APR-95	S15F	(113516:100)	
1		TL/7841/Q4	S COLD	23-NOV-94	29-APR-95	S15F	(113516:100)	
6720-007	S804-SS1-2-4	Solid	31-OCT-94 13:15	31-OCT-94 15:45	30-NOV-94	CLIENT	1	Screening not Required
1 GN - Glass Jar-250ML		ABT/9310/Q4	S COLD	23-NOV-94	29-APR-95	S15F	(113517:100)	
1		HG/7470/Q4	S COLD	23-NOV-94	28-NOV-94	S15F	(113517:100)	
1		ICAPT/6010/Q4	S COLD	23-NOV-94	29-APR-95	S15F	(113517:100)	
1		PM/IT/Q4	S COLD	28-NOV-94	29-APR-95	S15F	(113517:100)	
1		RAD/KPA/Q4	S COLD	23-NOV-94	29-APR-95	S15F	(113517:100)	
1		SE/7740/Q4	S COLD	23-NOV-94	29-APR-95	S15F	(113517:100)	
1		TL/7841/Q4	S COLD	23-NOV-94	29-APR-95	S15F	(113517:100)	
6720-008	S805-SS2-6-8	Solid	31-OCT-94 14:10	31-OCT-94 15:45	30-NOV-94	CLIENT	1	Screening not Required
1 GN - Glass Jar-250ML		ABT/9310/Q4	S COLD	23-NOV-94	29-APR-95	S15F	(113518:100)	
1		HG/7470/Q4	S COLD	23-NOV-94	28-NOV-94	S15F	(113518:100)	
1		ICAPT/6010/Q4	S COLD	23-NOV-94	29-APR-95	S15F	(113518:100)	
1		PM/IT/Q4	S COLD	28-NOV-94	29-APR-95	S15F	(113518:100)	
1		RAD/KPA/Q4	S COLD	23-NOV-94	29-APR-95	S15F	(113518:100)	
1		SE/7740/Q4	S COLD	23-NOV-94	29-APR-95	S15F	(113518:100)	
1		TL/7841/Q4	S COLD	23-NOV-94	29-APR-95	S15F	(113518:100)	

3*=Sample has not been rad screened.

Quanterra November 23, 1994 11:40 am
 Account: 10031 Project: 135.08 Engineering Science, Inc. QAS No. 783 Rev. 0
 Master Sample Login: 6720

Project Manager: W. Price

Draft: Final: Entered and Reviewed by: PM Review:

Sample Header Template:

Sample No.	Client ID	C-Matrix	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.
#	Comments							
Container Type	Analysis		Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:X Filled)
6720-009	SB-01-SS2-4-6	Solid	31-OCT-94 09:20	31-OCT-94 15:45	30-NOV-94	CLIENT	1	Screening not Required
1 GN - Glass Jar-250ML	ABT/9310/Q4		S	COLD	23-NOV-94	29-APR-95 S15F		(113519:100)
6720-010	SB02-SS2-6-8	Solid	31-OCT-94 10:30	31-OCT-94 15:45	30-NOV-94	CLIENT	1	Screening not Required
1 GN - Glass Jar-250ML	ABT/9310/Q4		S	COLD	23-NOV-94	29-APR-95 S15F		(113520:100)
6720-011	SB-03-SS2-4-6	Solid	31-OCT-94 11:25	31-OCT-94 15:45	30-NOV-94	CLIENT	1	Screening not Required
1 GN - Glass Jar-250ML	ABT/9310/Q4		S	COLD	23-NOV-94	29-APR-95 S15F		(113521:100)
6720-012	SB-04-SS2-6-7	Solid	31-OCT-94 13:25	31-OCT-94 15:45	30-NOV-94	CLIENT	1	Screening not Required
1 GN - Glass Jar-250ML	ABT/9310/Q4		S	COLD	23-NOV-94	29-APR-95 S15F		(113522:100)
6720-013	SB-04-SS3-9-10	Solid	31-OCT-94 13:30	31-OCT-94 15:45	30-NOV-94	CLIENT	1	Screening not Required
1 GN - Glass Jar-250ML	ABT/9310/Q4		S	COLD	23-NOV-94	29-APR-95 S15F		(113523:100)
6720-014	SB05-SS1-2-4	Solid	31-OCT-94 14:00	31-OCT-94 15:45	30-NOV-94	CLIENT	1	Screening not Required
1 GN - Glass Jar-250ML	ABT/9310/Q4		S	COLD	23-NOV-94	29-APR-95 S15F		(113524:100)

3*=Sample has not been rad screened.

Temp 4°C
CUR# 2291

Parsons

ENGINEERING-SCIENCE

400 WOODS MILL ROAD SOUTH, SUITE 450-330
CHESTERFIELD, MISSOURI 63017
(314) 576-7330 FAX (314) 576-2702

No. 01258

Chain-of Custody Record

PROJ. NO.		PROJECT NAME/LOCATION		NO. OF CONTAINERS	PARAMETER						REMARKS				
726587		MSD Ash Pile, Angelica St. St. Louis			<div>Gross & B Total 4 TAL Metals % Full 4oz clear glass</div>										
SAMPLERS: (Signature)															
STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION										
	10-31	0915		X	SB01 SS2-2-4	1	X	X	X	100					
	10-31	0920		Y	SB01-SS2-4-6	1	X								
		0940		X	SB01-SS3-6-8	1	X	X	X						
		0940		X	SB01-SS4-14-16	1	X	X	X						
		1020			SB02-SS1-2-4	1	X	X	X						
		1030			SB02-SS2-6-8	1	X								
		1040			SB02-SS3-8-9.5	1	X	X	X						
		1110			SB03-SS1-2-4	1	X	X	X						
		1125			SB03-SS2-4-6	1	X	X							
		1315			SB04-SS1-2-4	1	X	X	X						
		1325			SB04-SS2-6-7	1	X								
		1330			SB04-SS3-9-10	1	X								
		1400			SB05-SS1-24	1	X								
	✓	1410		✓	SB05-SS2-6-8	1	X	X	X	✓	✓				

Relinquished by: (Signature) <i>Lee Gordy</i>	Date / Time 10-31-94 1540	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time 10-31-94 1545	Received by: (Signature) <i>2nd Mitchell</i>	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time 10-31-94 1545	Received for Laboratory by: (Signature) <i>2nd Mitchell</i>	Date / Time	Remarks Method of Shipment: _____ Airbill #: _____ Laboratory: _____ Cooler #: _____	

Distribution Original Accompanies Shipment. Copy returned with Report.

MSD 000355

C.U.R. and COC

COPIED TO: DK & WP

DATE: 10-31-94

TIME: 16:15

BY: DM

Work Order No.: 6720

Condition Upon Receipt Variance Report
St. Louis Laboratory

Client: Engineering Science

Date: 10-31-94 1545

Project No: 135.08

Initiated by: Paul Satchel

Analysis Requested: Refer to RFA/COC

RFA/COC Numbers: 01258

Client Sample Numbers Affected: Entire Login

Condition/Variance (Check all that apply): Circle Number to Denote that Item was Evaluated. "NA" = "Not Applicable".

1. NA	Not enough sample received for proper analysis. Received approximately: _____	8. <input type="checkbox"/>	Custody tape disturbed/broken/missing.
2. <input type="checkbox"/>	Sample received broken/leaking.	9. NA	Sample splits performed by lab.
3. <input type="checkbox"/>	Sample received without proper preservative. <input type="checkbox"/> Cooler temperature not within 4°C ± 2°C Record temperature: <u>4°C</u>	10. NA	Volatile sample received with approximately _____ mm headspace.
<input type="checkbox"/>	pH _____	11. <input type="checkbox"/>	Sample ID on container does not match sample ID on paperwork. Explain: _____
<input type="checkbox"/>	other: _____	<input type="checkbox"/>	_____
4. <input type="checkbox"/>	Sample received in improper container.	12. <input type="checkbox"/>	All coolers on airbill not received with shipment.
5. <input type="checkbox"/>	Sample received without proper paperwork. Explain: _____	13. <input type="checkbox"/>	Other (explain below): <u>Shipping containers not rad surveyed.</u>
6. <input type="checkbox"/>	Paperwork received without sample.		_____
7. <input type="checkbox"/>	No sample ID on sample container.		_____

Notes:

Corrective Action:

- ☐ Client's Name: _____ Informed verbally on: _____ By: _____
- ☐ Client's Name: _____ Informed in writing on: _____ By: _____
- ☐ Sample(s) processed "as is". Comments: _____
- ☐ Sample(s) on hold until: _____ If released, notify: _____

Sample Control Supervisor Review: (or designate) _____ Date: _____

Project Management Review: _____ Date: _____

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

APPENDIX D
LABORATORY REPORTS
FOR TCLP ANALYSES

Quanterra Incorporated
13715 Rider Trail North
Earth City, Missouri 63045

314 298-8566 Telephone
314 298-8757 Fax

RECEIVED

FEB 06 1995

ES-ST. LOUIS

CERTIFICATE OF ANALYSIS

Engineering Science
400 Woods Mill Road
Suite 300
Chesterfield, MO 63017

February 2, 1995

Attention: Mr. Lee Gorday

Project number	:	135.08
Date Received by Lab	:	November 4, 1994
Number of Samples	:	Ten (10)
Sample Type	:	Solid
Subcontract Number	:	726589-S-001

I. Introduction

On November 4, 1994, ten (10) solid samples were received by Quanterra, St. Louis from Engineering Science analyses. The results of these analyses, along with supporting quality control data and custody documents, are included in the attached report. Upon receipt at the laboratory, the samples were given the following laboratory ID numbers to correspond with its specific client ID's:

<u>CLIENT ID</u>	<u>St. Louis ID</u>
SB-11-SS2-4-6	7296-001
SB-13-SS3-8-10	7296-002
SB-14-SS1-0-2	7296-003
SB-15-SS1-2-4	7296-004
SB-22-SS2-6-7	7296-005
SB-17-SS2-2-4	7296-006
SB-13-SS2-6-8	7296-007
SB-28-SS1-2-4	7296-008
SB-31-SS2-6-8	7296-009
SB-32-SS2-6-8	7296-010

Engineering Science
February 2, 1995
Project Number 135.08
page 2

II. Analytical Results/ Methodology

The analytical results for this report are presented by analytical test. Each set of data will include sample identification information, analytical results, and the appropriate detection limits.

The analysis requested included: ICAP by EPA 6010 and Mercury by EPA method 7470, following TCLP extraction by EPA method 1311.

III. Quality Control

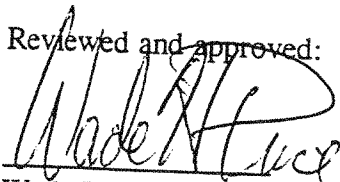
The Quality Assurance/Quality Control (QA/QC) information supporting this analysis can be found immediately following the analytical data. These data are used to assess the laboratory's precision and accuracy during the analytical procedure.

IV. Comments

Holding times expired prior to TCLP extraction due to client request for additional analysis.
See non-conformance # SL-94-1110.

I certify that this Certificate of Analysis is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.

Reviewed and approved:



Wade H. Price
Project Manager

e:\sqm\01\wadeprice\abbydave\7296pes.coa

ITAS-St. Louis
LABORATORY NONCONFORMANCE MEMO (NCM)

PROJECT ID (Name/Number): 135.08
NCM INITIATED BY (Name/Date): K. P. 3/1
PARAMETER(S): As
SAMPLE NUMBER(S) AFFECTED: 7296-001 → 010

AREA: ☐ SHIP/REC ☐ GC ☐ GEN CHEM ☐ BIOASSAY ☐ IH
☐ ORG EXT ☐ HPLC ☒ METALS ☐ RADIOCHEM ☐ DATA VERIFICATION
☐ INORG PREP ☐ GCMS ☐ GEO ☐ COUNTING ☐ REPORTING
☐ OTHER ☐

NONCONFORMANCE [check appropriate item(s)]:

1. ☐ Not enough sample received for proper analysis.
2. ☒ Holding time exceeded by 41 - 42 days due to:
- 2.1 ☒ CATEGORY I: Out of Laboratory Control
☒ Holding time expired at receipt
At sample request - KPC 01-30-95 additional analysis requested
- 2.2 ☐ CATEGORY II: Laboratory Dependent
☐ work backlog ☐ instrument failure
☐ communication ☒ other (see #10) KPC 01-30-95
- 2.3 ☐ CATEGORY III: Laboratory Reruns
- 2.3.1 ☐ QA/QC:
☐ surrogates ☐ internal standards
☐ spike recoveries ☐ blank contamination
- 2.3.2 ☐ CONFIRMATION:
☐ second column ☐ contamination check
☐ other (see #10)
- 2.3.3 ☐ DILUTION:
☐ over calibration ☐ under calibration
☐ other (see #10)
- 2.3.4 ☐ OTHER: (see #10)
3. ☐ Sample lost during extraction/analysis. no re-prep or re-analysis possible.
4. ☐ QC data reported to client outside of:
☐ method limits ☐ internal limits
☐ QAPP limits ☐ contract limits
☐ regulatory limits ☐ blank criteria
5. ☒ Incorrect procedure(s) used. (See #10)
6. ☐ Invalid instrument calibration. (See #10)
7. ☐ Incorrect/incomplete data reported to client. (See #10)
8. ☐ Reported detection limit(s) higher than:
☐ method limits ☐ QAPP limits
☐ contract limits ☐ other (see #10)
- Due to:
☐ sample matrix ☐ insufficient sample
☐ instrumentation ☐ other (see #10)

9. ☐ Other (specify):
10. ☐ Comments/Explanation: Holding time expired before TARP
initiation began - because client requested additional
analysis

NOTIFICATION [check appropriate item(s)]:

1. ☒ Client notified by (name and date): DAVID SEARS 2/2/95 ☐ Client's name _____ and response
- ☒ in writing ☐ by FAX ☐ process "as is" ☐ resample
- ☐ by phone ☐ Other (explain) ☐ on hold til _____ ☐ Other (explain)

PROJECT MANAGER (signature & date):

WHP 2/2/95

FURTHER ACTION REQUIRED, SEE PAGE 2 OF 2

CORRECTIVE ACTION☒ ROOT CAUSE:

INITIALS/DATE

J.P. 01-30-95

Client requested analysis after hold time.
revised!!

☒ CORRECTIVE ACTION:

INITIALS/DATE

J.P. 01-30-95

Send data

☐ RESPONSIBILITY FOR PERFORMING CORRECTIVE ACTION ASSIGNED TO:☐ ACTIONS TO PREVENT RECURRENCE:

INITIALS/DATE

J.P. 01-30-95

Client dependent

FIRST LEVEL SUPERVISOR:

RESPONSIBLE MANAGER:

DATE:

DATE:

QC REVIEW☐ NONCONFORMANCE☒ DEFICIENCY☐ RERUN☐ FURTHER ACTION REQUIRED:

ASSIGNED TO:

Responsible Manager:

QC COORDINATOR:

DATE:

CORRECTIVE ACTION VERIFICATION☐ VERIFIED☐ CANNOT VERIFY (specify reason)

REASON:

NCM CLOSURE

QC COORDINATOR:

DATE:

SIGNED ORIGINAL MUST BE RETAINED IN FILE:

☐ QUALITY/OPERATIONS FILE☐ PROJECT FILE

Project Manager: W. Price

Draft: Final

Entered and Reviewed by: [Signature]

PM Review: [Signature]

Sample Header Template:

Sample No.	Client ID	C-Matrix	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.
#	Comments	Analysis	Class	Preservative	Anal. Due Date	Hold Date Site	(Container Numbers:X Filled)	
7296-001	SB-11-SS2-4-6	Solid	02-NOV-94 08:05	04-NOV-94 09:45	30-JAN-95	FED-EX	1	Screening not Required
NOTE: THIS SAMPLE IS THE SAME AS LOGIN 6765-014, CONTAINER #114351								
1	AN - Amber Glass-250ML	EXTMETAL/TCLP/Q4	S	COLD	27-JAN-95	30-NOV-94 R11A		(123742:100)
1		HG/TCLP/Q4	S	COLD	27-JAN-95	30-NOV-94 R11A		(123742:100)
1		ICAP/TCLP/Q4	S	COLD	27-JAN-95	29-MAY-95 R11A		(123742:100)
7296-002	SB-13-SS3-8-10	Solid	02-NOV-94 09:50	04-NOV-94 09:45	30-JAN-95	FED-EX	1	Screening not Required
NOTE: THIS SAMPLE IS THE SAME AS LOGIN 6765-022, CONTAINER #114359								
1	AN - Amber Glass-250ML	EXTMETAL/TCLP/Q4	S	COLD	27-JAN-95	30-NOV-94 R11A		(123744:100)
1		HG/TCLP/Q4	S	COLD	27-JAN-95	30-NOV-94 R11A		(123744:100)
1		ICAP/TCLP/Q4	S	COLD	27-JAN-95	29-MAY-95 R11A		(123744:100)
7296-003	SB-14-SS1-0-2	Solid	02-NOV-94 10:15	04-NOV-94 09:45	30-JAN-95	FED-EX	1	Screening not Required
NOTE: THIS SAMPLE IS THE SAME AS LOGIN 6765-023, CONTAINER #114360								
1	AN - Amber Glass-250ML	EXTMETAL/TCLP/Q4	S	COLD	27-JAN-95	30-NOV-94 R11A		(123745:100)
1		HG/TCLP/Q4	S	COLD	27-JAN-95	30-NOV-94 R11A		(123745:100)
1		ICAP/TCLP/Q4	S	COLD	27-JAN-95	29-MAY-95 R11A		(123745:100)
7296-004	SB-15-SS1-2-4	Solid	02-NOV-94 11:40	04-NOV-94 09:45	30-JAN-95	FED-EX	1	Screening not Required
NOTE: THIS SAMPLE IS THE SAME AS LOGIN 6765-026, CONTAINER #114363								
1	AN - Amber Glass-250ML	EXTMETAL/TCLP/Q4	S	COLD	27-JAN-95	30-NOV-94 R11A		(123748:100)
1		HG/TCLP/Q4	S	COLD	27-JAN-95	30-NOV-94 R11A		(123748:100)
1		ICAP/TCLP/Q4	S	COLD	27-JAN-95	29-MAY-95 R11A		(123748:100)
7296-005	SB-22-SS2-6-7	Solid	02-NOV-94 16:10	04-NOV-94 09:45	30-JAN-95	FED-EX	1	Screening not Required
NOTE: THIS SAMPLE IS THE SAME AS LOGIN 6765-038, CONTAINER #114375								
1	AN - Amber Glass-250ML	EXTMETAL/TCLP/Q4	S	COLD	27-JAN-95	30-NOV-94 R11A		(123753:100)
1		HG/TCLP/Q4	S	COLD	27-JAN-95	30-NOV-94 R11A		(123753:100)
1		ICAP/TCLP/Q4	S	COLD	27-JAN-95	29-MAY-95 R11A		(123753:100)
7296-006	SB-17-SS1-2-4	Solid	03-NOV-94 08:55	04-NOV-94 09:45	30-JAN-95	FED-EX	1	Screening not Required
NOTE: THIS SAMPLE IS THE SAME AS LOGIN 6765-046, CONTAINER #114383								
1	AN - Amber Glass-250ML	EXTMETAL/TCLP/Q4	S	COLD	27-JAN-95	01-DEC-94 R11A		(123754:100)
1		HG/TCLP/Q4	S	COLD	27-JAN-95	01-DEC-94 R11A		(123754:100)
1		ICAP/TCLP/Q4	S	COLD	27-JAN-95	30-MAY-95 R11A		(123754:100)

3*=Sample has not been rad screened.

Project Manager: W. Price

Draft: Final: Entered and Reviewed by: _____

PM Review: _____

Sample Header Template: _____

Sample No.	Client ID	C-Matrix	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.
#	Comments	Analysis	Class	Preservative	Anal. Due Date	Hold Date Site	(Container Numbers:X Filled)	
7296-007	SB-17-SS3-6-8	Solid	03-NOV-94 09:10	04-NOV-94 09:45	30-JAN-95	FED-EX	1	Screening not Required
	NOTE: THIS SAMPLE IS THE SAME AS LOGIN 6765-048, CONTAINER #114385							
1	AN - Amber Glass-250ML	EXTMETAL/TCLP/Q4	S	COLD	27-JAN-95	01-DEC-94 R11A	(123755:100)	
1		HG/TCLP/Q4	S	COLD	27-JAN-95	01-DEC-94 R11A	(123755:100)	
1		ICAP/TCLP/Q4	S	COLD	27-JAN-95	30-MAY-95 R11A	(123755:100)	
7296-008	SB-28-SS1-2-4	Solid	03-NOV-94 12:45	04-NOV-94 09:45	30-JAN-95	FED-EX	1	Screening not Required
	NOTE: THIS SAMPLE IS THE SAME AS LOGIN 6765-057, CONTAINER #114394							
1	AN - Amber Glass-250ML	EXTMETAL/TCLP/Q4	S	COLD	27-JAN-95	01-DEC-94 R11A	(123756:100)	
1		HG/TCLP/Q4	S	COLD	27-JAN-95	01-DEC-94 R11A	(123756:100)	
1		ICAP/TCLP/Q4	S	COLD	27-JAN-95	30-MAY-95 R11A	(123756:100)	
7296-009	SB-31-SS2-6-8	Solid	03-NOV-94 14:25	04-NOV-94 09:45	30-JAN-95	FED-EX	1	Screening not Required
	NOTE: THIS SAMPLE IS THE SAME AS LOGIN 6765-062, CONTAINER #114399							
1	AN - Amber Glass-250ML	EXTMETAL/TCLP/Q4	S	COLD	27-JAN-95	01-DEC-94 R11A	(123757:100)	
1		HG/TCLP/Q4	S	COLD	27-JAN-95	01-DEC-94 R11A	(123757:100)	
1		ICAP/TCLP/Q4	S	COLD	27-JAN-95	30-MAY-95 R11A	(123757:100)	
7296-010	SS-32-SS2-6-8	Solid	03-NOV-94 14:50	04-NOV-94 09:45	30-JAN-95	FED-EX	1	Screening not Required
	NOTE: THIS SAMPLE IS THE SAME AS LOGIN 6765-064, CONTAINER #114401							
1	AN - Amber Glass-250ML	EXTMETAL/TCLP/Q4	S	COLD	27-JAN-95	01-DEC-94 R11A	(123758:100)	
1		HG/TCLP/Q4	S	COLD	27-JAN-95	01-DEC-94 R11A	(123758:100)	
1		ICAP/TCLP/Q4	S	COLD	27-JAN-95	30-MAY-95 R11A	(123758:100)	

3*=Sample has not been rad screened.

Parsons

400

ENGINEERING-SCIENCE

WOODS MILL ROAD SOUTH, SUITE 150 330
CHESTERFIELD, MISSOURI 63017
(314) 576-7330 FAX (314) 576-2702

Temp 6°C cur #D243

No. 01259

Chain-of Custody Record

PROJ. NO.		PROJECT NAME/LOCATION				NO. OF CON- TAINERS	PARAMETER						REMARKS		
SAMPLERS: (Signature)															
STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION		Gross wt + B	Total Wt.	TAL Metals	Type	Container				
	11-14	1025		X	SB06-SS1-2-4	1	X					Soil 8oz CG 100%			
	"	1050		X	SB06-SS2-6-8	1	X	X	X						
	"	1415		X	SB06-SS3-13-14	1	X	X	X						
	"	1206		X	SB-07-SS1-2-4	1	X	X	X						
	"	1215		X	SB07-SS2-4-6	1	X	X	X						
	"	1345		X	SB09-SS1-0-2	1	X	X	X			Soil 8oz AG			
	"	1400		X	SB09-SS2-6-8	1	X	X	X						
	"	1440		X	SB-08-SS1-0-2	1	X	X	X						
	"	1450		X	SB08-SS2-6-8	1	X								
	"	1455		X	SB08-SS3-8-10	1	X	X	X			Sample Not Submitted			
	"	1510		X	SB08-SS4-16-18	1	X	X	X						
	"	1610		X	SB-10-SS1-2-4	1	X								
	"	1620		X	SB-10-SS2-6-8	1	X	X	X			Soil 8oz AG 100%			
Relinquished by: (Signature)						Date / Time		Received by: (Signature)		Relinquished by: (Signature)		Date / Time		Received by: (Signature)	
La Forday						11-4-94 1045		Michael Pacheco							
Relinquished by: (Signature)						Date / Time		Received by: (Signature)		Relinquished by: (Signature)		Date / Time		Received by: (Signature)	
						11-4-94 0945		Paul Weber							
Relinquished by: (Signature)						Date / Time		Received for Laboratory by: (Signature)		Date / Time		Remarks			
												Method of Shipment: _____ Airbill #: _____ Laboratory: _____ Cooler #: _____			

Distribution Original Accompanies Shipment. Copy returned with Report.

MSD 000364

Parsons **ENGINEERING-SCIENCE**
 400 425 WOODS MILL ROAD SOUTH, SUITE 150 330
 CHESTERFIELD, MISSOURI 63017
 (314) 576-7330 FAX (314) 576-2702

Temp 6°C CUL# 2243

No. 01260

Chain-of Custody Record

PROJ. NO.		PROJECT NAME/LOCATION		NO. OF CONTAINERS		PARAMETER						REMARKS	
726589		MSD Ash Pile, Angelica St., St Louis MO				Gross α+β	Total LL	TAL Metals	Type	Containers			
SAMPLERS: (Signature) <i>Lee Gorday</i>													
STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION								
	11-2	0800		X	SB-11-SS1-0-2	1	X	X	X				
	11-2	0805		X	SB-11-SS2-4-6	1	X	X	X				
	11-2	0810		X	SB-11-SS3-8-9	1	X	X	X				
	11-2	0838		X	SB-12-SS1-0-2	1	X	X	X				
	11-2	0845		X	SB-12-SS2-2-4	1	X						
	11-2	0855		X	SB-12-SS3-8-9	1	X	X	X				
	11-2	0900		X	SB-12-SS4-10-12	1	X						
	11-2	0935		X	SB-13-SS1-0-2	1	X	X	X				
	11-2	0945		X	SB-13-SS2-6-8	1	X						
	11-2	0950		X	SB-13-SS3-8-10	1	X	X	X				
	11-2	1015		X	SB-14-SS1-0-2	1	X	X	X				
	11-2	1020		X	SB-14-SS2-4-6	1	X	X	X				
	11-2	1030		X	SB-14-SS3-8-10	1	X					100%	
	11-2	1140		X	SB-15-SS1-2-4	1	X	X	X			50%	
	11-2	1150		X	SB-15-SS2-6-8	1	X	X	X			100%	
Relinquished by: (Signature) <i>Lee Gorday</i>				Date / Time 11-4-94 / 1045		Received by: (Signature) <i>Michael Jackson</i>				Relinquished by: (Signature)		Date / Time	Received by: (Signature)
Relinquished by: (Signature)				Date / Time 11-4-94 / 0945		Received by: (Signature) <i>Rich Weber</i>				Relinquished by: (Signature)		Date / Time	Received by: (Signature)
Relinquished by: (Signature)				Date / Time		Received for Laboratory by: (Signature)				Date / Time		Remarks Method of Shipment: _____ Airbill #: _____ Laboratory: _____ Cooler #: _____	

Distribution Original Accompanies Shipment. Copy returned with Report.

MSD 000365

Parsons

ENGINEERING-SCIENCE

400 ~~425~~ WOODS MILL ROAD SOUTH, SUITE 450-330
 CHESTERFIELD, MISSOURI 63017
 (314) 576-7330 FAX (314) 576-2702

Temp 6°C

CAR #2243

No. 01261

Chain-of Custody Record

PROJ. NO.		PROJECT NAME/LOCATION		NO. OF CONTAINERS	PARAMETER				REMARKS
726589		MSD Ash Pile Angelika St St Louis			Gross wt B	Total	TAL mch 15	Type	
SAMPLERS: (Signature) <i>Lee Gorday</i>									
STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION				
	11-2	1155	X	X	SB-15-SS3-8-9	1	X		Soil 80% AG 100%
	11-2	1315	X	X	SB-20-SS1-0-2	1	X	X	
	11-2	1330	X	X	SB-20-SS2-4-6	1	X		
	11-2	1340	X	X	SB 20 -SS3-8-9	1	X	X	
	11-2	1410	X	X	SB19-SS1-0-2	1	X	X	100%
	11-2	1415	X	X	SB19-SS2-4-6	1	X		80%
	11-2	1420	X	X	SB19-SS3-6-8	1	X	X	100%
	11-2	1530	X	X	SB-23-SS1-2-4	1	X	X	
	11-2	1540	X	X	SB-23-SS2-6-8	1	X	X	
	11-2	1605	X	X	SB-22-SS1-2-4	1	X	X	
	11-2	1610	X	X	SB-22-SS2-6-7	1	X	X	100%
	11-2	1450	X	X	SB18-SS1-2-4	1	X		50%
	11-2	1455	X	X	SB18-SS2-4-6	1	X	X	100%
	11-2	1520	X	X	SB18-SS3-6-8	1	X	X	Soil 80% AG 100%

Relinquished by: (Signature) <i>Lee Gorday</i>	Date / Time 10-4-94 1045	Received by: (Signature) <i>Michael Jackson</i>	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time 11-4-94 0945	Received by: (Signature) <i>Rich Weber</i>	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks Method of Shipment: _____ Airbill #: _____ Laboratory: _____ Cooler #: _____	

Distribution Original Accompanies Shipment. Copy returned with Report.

MSD 000366

ENGINEERING-SCIENCE

40425 WOODS MILL ROAD SOUTH, SUITE 150 330
CHESTERFIELD, MISSOURI 63017
(314) 576-7330 FAX (314) 576-2702

Temp 3°C W R# 224)

No. 01262

Chain-of Custody Record

PROJ. NO.		PROJECT NAME/LOCATION		NO. OF CONTAINERS		PARAMETER					REMARKS
SAMPLERS (Signature)						Gross wt	Total U	TAL Metals	Type	Container	
STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION						
726589	MSD Ash Pile, Angelica St. St Louis										
	11-3	0815		X	SB-16-SS1-0-2	1	X	X	X		
	11-3	0825		X	SB-16-SS2-4-6	1	X				
	11-3	0830		X	SB-16-SS3-8-9	1	X	X	X		
	11-3	0840		X	SB-16-SS4-10-12	1	X	X	X		
	11-3	0855		X	SB-17-SS1-2-4	1	X	X	X		
	11-3	0905		X	SB-17-SS2-4-6	1	X				
	11-3	0910		X	SB-17-SS3-6-8	1	X	X	X		
	11-3	0940		X	SB-25-SS1-2-4	1	X	X	X		
	11-3	0955		X	SB-25-SS2-6-8	1	X	X	X		
	11-3	1015		X	SB-24-SS1-2-4	1	X	X	X		
	11-3	1025		X	SB-24-SS2-6-8	1	X	X	X		
	11-3	1100		X	SB-27-SS1-2-4	1	X	X	X		
	11-3	1110		X	SB-27-SS2-6-8	1	X	X	X		
	11-3	1130		X	SB-29-SS1-2-4	1	X	X	X		
	11-3	1135		X	SB-29-SS2-4-6	1	X	X	X		
Relinquished by: (Signature)		Date / Time		Received by: (Signature)		Relinquished by: (Signature)		Date / Time		Received by: (Signature)	
Lee Gordon		11-4-94 1045		Michael Jackson							
Relinquished by: (Signature)		Date / Time		Received by: (Signature)		Relinquished by: (Signature)		Date / Time		Received by: (Signature)	
Rich Wilson		11-4-94 1045		Rich Wilson							
Relinquished by: (Signature)		Date / Time		Received for Laboratory by: (Signature)		Date / Time		Remarks			
								Method of Shipment: _____			
								Airbill #: _____			
								Laboratory: _____			
								Cooler #: _____			

Distribution Original Accompanies Shipment. Copy returned with Report.

MSD 000367

ENGINEERING-SCIENCE

400 425-WOODS MILL ROAD SOUTH, SUITE 450 330 Temp 3°C CMT# 2241
CHESTERFIELD, MISSOURI 63017
(314) 576-7330 FAX (314) 576-2702

No. 01263

Chain-of Custody Record

PROJ. NO.		PROJECT NAME/LOCATION		NO. OF CONTAINERS		PARAMETER						REMARKS																	
726589		MSD Ash Pile Angelica St. St Louis				Gross A+B	Total U	TAL Metals	Type	Container	% Full																		
STA. NO.	DATE	TIME	COM. GRAB.	STATION LOCATION																									
	11-3	1245	X	SB-28-SS1-2-4	1	X	X	X	Soil	802 Ag	100%																		
	11-3	1255	X	SB-28-SS2-6-8	1	X	X	X																					
	11-3	1345	X	SB-26-SS1-2-4	1	X	X	X																					
	11-3	1355	X	SB-26-SS2-6-8	1	X	X	X																					
	11-3	1415	X	SB-31-SS1-2-4	1	X	X	X																					
	11-3	1425	X	SB-31-SS2-6-8	1	X	X	X																					
	11-3	1445	X	SB-32-SS1-2-4	1	X	X	X																					
	11-3	1450	X	SB-32-SS2-6-8	1	X	X	X																					
	11-3	1505	X	SB-30-SS1-2-4	1	X	X	X																					
	11-3	1515	X	SB-30-SS2-6-8	1	X	X	X																					
	11-4	0805	X	SB-33-SS1-02	1	X	X	X																					
	11-4	0810	X	SB-33-SS2-6-8	1	X																							
	11-4	0815	X	SB-33-SS3-8-10	1	X	X	X	Soil	802 Ag	100%																		
<table border="1"> <tr> <td>Relinquished by: (Signature) <i>Lee J. Janday</i></td> <td>Date / Time 11-4-94 1045</td> <td>Received by: (Signature) <i>Michael Jackson</i></td> <td>Relinquished by: (Signature)</td> <td>Date / Time</td> <td>Received by: (Signature)</td> </tr> <tr> <td>Relinquished by: (Signature)</td> <td>Date / Time 11-4-94 1045</td> <td>Received by: (Signature) <i>Rich Wilson</i></td> <td>Relinquished by: (Signature)</td> <td>Date / Time</td> <td>Received by: (Signature)</td> </tr> <tr> <td>Relinquished by: (Signature)</td> <td>Date / Time</td> <td>Received by: Laboratory by: (Signature)</td> <td>Date / Time</td> <td colspan="2">Remarks Method of Shipment: _____ Airbill #: _____ Laboratory: _____ Cooler #: _____</td> </tr> </table>												Relinquished by: (Signature) <i>Lee J. Janday</i>	Date / Time 11-4-94 1045	Received by: (Signature) <i>Michael Jackson</i>	Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time 11-4-94 1045	Received by: (Signature) <i>Rich Wilson</i>	Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: Laboratory by: (Signature)	Date / Time	Remarks Method of Shipment: _____ Airbill #: _____ Laboratory: _____ Cooler #: _____	
Relinquished by: (Signature) <i>Lee J. Janday</i>	Date / Time 11-4-94 1045	Received by: (Signature) <i>Michael Jackson</i>	Relinquished by: (Signature)	Date / Time	Received by: (Signature)																								
Relinquished by: (Signature)	Date / Time 11-4-94 1045	Received by: (Signature) <i>Rich Wilson</i>	Relinquished by: (Signature)	Date / Time	Received by: (Signature)																								
Relinquished by: (Signature)	Date / Time	Received by: Laboratory by: (Signature)	Date / Time	Remarks Method of Shipment: _____ Airbill #: _____ Laboratory: _____ Cooler #: _____																									

Distribution Original Accompanies Shipment. Copy returned with Report.

MSD 000368

C.U.R. and C.C.
COPIED TO: OK/WP
DATE: 11-4-94
TIME: 1150
BY: Mark Weber

original is in
bagin 6765-

Condition Upon Receipt Variance Report
St. Louis Laboratory

Work Order No.: 67645

Client: _____

Date: 11-4-94 0945

Project No: 135.08

Initiated by: Mark Weber

Analysis Requested: Refer to RFA/COC

RFA/COC Numbers: 01259, 01260, 01261

Client Sample Numbers Affected: Entire Login

Condition/Variance (Check all that apply): Circle Number to Denote that Item was Evaluated. "NA" = "Not Applicable".

1. NA	Not enough sample received for proper analysis. Received approximately: _____	8. <input type="checkbox"/>	Custody tape disturbed/broken/missing.
2. <input type="checkbox"/>	Sample received broken/leaking.	9. NA	Sample splits performed by lab.
3. <input type="checkbox"/>	Sample received without proper preservative. <input type="checkbox"/> Cooler temperature not within 4°C ± 2°C Record temperature: <u>6°C</u>	10. NA	Volatile sample received with approximately _____ mm headspace.
<input type="checkbox"/>	pH _____	11. <input checked="" type="checkbox"/>	Sample ID on container does not match sample ID on paperwork. Explain: <u>See Note</u>
<input type="checkbox"/>	other: _____	12. <input type="checkbox"/>	All coolers on airbill not received with shipment.
4. <input type="checkbox"/>	Sample received in improper container.	13. <input type="checkbox"/>	Other (explain below): <u>Shipping containers not rad surveyed.</u>
5. <input type="checkbox"/>	Sample received without proper paperwork. Explain: _____		
6. <input type="checkbox"/>	Paperwork received without sample.		
7. <input type="checkbox"/>	No sample ID on sample container.		

SB1

Notes: Sample #'s - SB-14-SS02-4-6, SB-13-SS02-6-8, SB-15-SS02-6-8, SB-16-SS02-4-6, SB-17-SS02-4-6, SB-18-SS02-4-6, SB-19-SS02-4-6, SB-20-SS02-4-6, SB-29-SS02-6-8, SB-19-SS2-4-6, SB-20-SS2-4-6, SB-29-SS2-4-6. Don't Match. Don't Match. Don't Match.

☐ Client's Name: _____ Informed verbally on: _____ By: _____

☐ Client's Name: _____ Informed in writing on: _____ By: _____

☐ Sample(s) processed "as is". Comments: _____

☐ Sample(s) on hold until: _____ If released, notify: _____

Sample Control Supervisor Review: (or designate) _____ Date: _____

Project Management Review: _____ Date: _____

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

2243

C.U.R. and C.U.S.
COPIED TO: OK/WLP
DATE: 11-4-94
TIME: 1122
BY: Rich Weber

*original is in
box 6765*

Condition Upon Receipt Variance Report
St. Louis Laboratory

Work Order No.: _____

Client: _____

Date: 11-4-94 1045

Project No: _____

Initiated by: Rich Weber

Analysis Requested: Refer to RFA/COC

RFA/COC Numbers: 01262, 01263

Client Sample Numbers Affected: Entire Login

Condition/Variance (Check all that apply): Circle Number to Denote that Item was Evaluated. "NA" = "Not Applicable".

1. NA	Not enough sample received for proper analysis. Received approximately: _____	(8) <input type="checkbox"/>	Custody tape disturbed/broken/missing.
(2) <input type="checkbox"/>	Sample received broken/leaking.	9. NA	Sample splits performed by lab.
(3) <input type="checkbox"/>	Sample received without proper preservative. <input type="checkbox"/> Cooler temperature not within $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$ Record temperature: <u>3°C</u> <input type="checkbox"/> pH _____ <input type="checkbox"/> other: _____	10. NA	Volatile sample received with approximately _____ mm headspace.
(4) <input type="checkbox"/>	Sample received in improper container.	(11) <input type="checkbox"/>	Sample ID on container does not match sample ID on paperwork. Explain: _____
(5) <input type="checkbox"/>	Sample received without proper paperwork. Explain: _____	(12) <input type="checkbox"/>	All coolers on airbill not received with shipment.
(6) <input type="checkbox"/>	Paperwork received without sample.	13. <input type="checkbox"/>	Other (explain below): <u>Shipping containers not rad surveyed.</u>
(7) <input type="checkbox"/>	No sample ID on sample container.		

Notes: _____

Corrective Action:

- ☐ Client's Name: _____ Informed verbally on: _____ By: _____
- ☐ Client's Name: _____ Informed in writing on: _____ By: _____
- ☐ Sample(s) processed "as is". Comments: _____
- ☐ Sample(s) on hold until: _____ If released, notify: _____

Sample Control Supervisor Review: (or designate) _____ Date: _____

Project Management Review: _____ Date: _____

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

2241

Engineering Science, Inc.
400 Woods Mill Road
Suite 330
Chesterfield, MO 63017

Project: 135.08

Category : TCLP ICAP
Matrix : Solid

Client ID: SB-11-SS2-4-6

Sample Date : 11/02/94
Receipt Date : 11/04/94
Report Date : 01/26/95

Quanterra ID : 7296-001

Analyte	Method	TCLP Extract Date	Prep Date	Analyses Date	Result	Units	Qual.	Detection Limit	Regulatory Level	Dilution
Arsenic	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		2.0	5.0	4
Barium	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.80	100	4
Cadmium	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.020	1.0	4
Chromium	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.080	5.0	4
Lead	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.40	5.0	4
Selenium	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		1.0	1.0	4
Silver	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.040	5.0	4

Engineering Science, Inc.
400 Woods Mill Road
Suite 330
Chesterfield, MO 63017

Project: 135.08

Category : TCLP ICAP
Matrix : Solid

Client ID: SB-13-SS3-8-10

Sample Date : 11/02/94
Receipt Date : 11/04/94
Report Date : 01/26/95

Quanterra ID : 7296-002

Analyte	Method	TCLP Extract Date	Prep Date	Analyses Date	Result	Units	Qual.	Detection Limit	Regulatory Level	Dilution
Arsenic	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		2.0	5.0	4
Barium	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.80	100	4
Cadmium	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.020	1.0	4
Chromium	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.080	5.0	4
Lead	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.40	5.0	4
Selenium	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		1.0	1.0	4
Silver	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.040	5.0	4

Engineering Science, Inc.
400 Woods Mill Road
Suite 330
Chesterfield, MO 63017

Project: 135.08

Category : TCLP ICAP
Matrix : Solid

Client ID: SB-14-SS1-0-2

Sample Date : 11/02/94
Receipt Date : 11/04/94
Report Date : 01/26/95

Quanterra ID : 7296-003

Analyte	Method	TCLP Extract Date	Prep Date	Analyses Date	Result	Units	Qual.	Detection Limit	Regulatory Level	Dilution
Arsenic	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		2.0	5.0	4
Barium	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.80	100	4
Cadmium	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.020	1.0	4
Chromium	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.080	5.0	4
Lead	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.40	5.0	4
Selenium	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		1.0	1.0	4
Silver	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.040	5.0	4

Engineering Science, Inc.
400 Woods Mill Road
Suite 330
Chesterfield, MO 63017

Project: 135.08

Category : TCLP ICAP
Matrix : Solid

Client ID: SB-15-SS1-2-4

Sample Date : 11/02/94
Receipt Date : 11/04/94
Report Date : 01/26/95

Quanterra ID : 7296-004

Analyte	Method	TCLP Extract Date	Prep Date	Analyses Date	Result	Units	Qual.	Detection Limit	Regulatory Level	Dilution
Arsenic	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		2.0	5.0	4
Barium	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.80	100	4
Cadmium	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.020	1.0	4
Chromium	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.080	5.0	4
Lead	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.40	5.0	4
Selenium	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		1.0	1.0	4
Silver	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.040	5.0	4

Engineering Science, Inc.
400 Woods Mill Road
Suite 330
Chesterfield, MO 63017

Project: 135.08

Category : TCLP ICAP
Matrix : Solid

Client ID: SB-22-SS2-6-7

Sample Date : 11/02/94
Receipt Date : 11/04/94
Report Date : 01/26/95

Quanterra ID : 7296-005

Analyte	Method	TCLP Extract Date	Prep Date	Analyses Date	Result	Units	Qual.	Detection Limit	Regulatory Level	Dilution
Arsenic	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		2.0	5.0	4
Barium	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.80	100	4
Cadmium	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.020	1.0	4
Chromium	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.080	5.0	4
Lead	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.40	5.0	4
Selenium	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		1.0	1.0	4
Silver	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.040	5.0	4

Engineering Science, Inc.
400 Woods Mill Road
Suite 330
Chesterfield, MO 63017

Project: 135.08

Category : TCLP ICAP
Matrix : Solid

Client ID: SB-17-SS1-2-4

Sample Date : 11/03/94
Receipt Date : 11/04/94
Report Date : 01/26/95

Quanterra ID : 7296-006

Analyte	Method	TCLP Extract Date	Prep Date	Analyses Date	Result	Units	Qual.	Detection Limit	Regulatory Level	Dilution
Arsenic	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		2.0	5.0	4
Barium	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.80	100	4
Cadmium	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.020	1.0	4
Chromium	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.080	5.0	4
Lead	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.40	5.0	4
Selenium	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		1.0	1.0	4
Silver	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.040	5.0	4

Engineering Science, Inc.
400 Woods Mill Road
Suite 330
Chesterfield, MO 63017

Project: 135.08

Category : TCLP ICAP
Matrix : Solid

Client ID: SB-17-SS3-6-8

Sample Date : 11/03/94
Receipt Date : 11/04/94
Report Date : 01/26/95

Quanterra ID : 7296-007

Analyte	Method	TCLP Extract Date	Prep Date	Analyses Date	Result	Units	Qual.	Detection Limit	Regulatory Level	Dilution
Arsenic	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		2.0	5.0	4
Barium	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.80	100	4
Cadmium	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.020	1.0	4
Chromium	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.080	5.0	4
Lead	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.40	5.0	4
Selenium	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		1.0	1.0	4
Silver	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.040	5.0	4

Engineering Science, Inc.
400 Woods Mill Road
Suite 330
Chesterfield, MO 63017

Project: 135.08

Category : TCLP ICAP
Matrix : Solid

Client ID: SB-28-SS1-2-4

Sample Date : 11/03/94
Receipt Date : 11/04/94
Report Date : 01/26/95

Quanterra ID : 7296-008

Analyte	Method	TCLP Extract Date	Prep Date	Analyses Date	Result	Units	Qual.	Detection Limit	Regulatory Level	Dilution
Arsenic	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		2.0	5.0	4
Barium	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.80	100	4
Cadmium	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.020	1.0	4
Chromium	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.080	5.0	4
Lead	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.40	5.0	4
Selenium	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		1.0	1.0	4
Silver	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.040	5.0	4

Engineering Science, Inc.
400 Woods Mill Road
Suite 330
Chesterfield, MO 63017

Project: 135.08

Category : TCLP ICAP
Matrix : Solid

Client ID: SB-31-SS2-6-8

Sample Date : 11/03/94
Receipt Date : 11/04/94
Report Date : 01/26/95

Quanterra ID : 7296-009

Analyte	Method	TCLP Extract Date	Prep Date	Analyses Date	Result	Units	Qual.	Detection Limit	Regulatory Level	Dilution
Arsenic	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		2.0	5.0	4
Barium	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.80	100	4
Cadmium	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.020	1.0	4
Chromium	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.080	5.0	4
Lead	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.40	5.0	4
Selenium	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		1.0	1.0	4
Silver	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.040	5.0	4

Engineering Science, Inc.
400 Woods Mill Road
Suite 330
Chesterfield, MO 63017

Project: 135.08

Category : TCLP ICAP
Matrix : Solid

Client ID: SS-32-SS2-6-8

Sample Date : 11/03/94
Receipt Date : 11/04/94
Report Date : 01/26/95

Quanterra ID : 7296-010

Analyte	Method	TCLP Extract Date	Prep Date	Analyses Date	Result	Units	Qual.	Detection Limit	Regulatory Level	Dilution
Arsenic	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		2.0	5.0	4
Barium	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.80	100	4
Cadmium	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.020	1.0	4
Chromium	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.080	5.0	4
Lead	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.40	5.0	4
Selenium	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		1.0	1.0	4
Silver	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.040	5.0	4

Engineering Science, Inc.
400 Woods Mill Road
Suite 330
Chesterfield, MO 63017

Project: 135.08

Category : TCLP ICAP
Matrix : Solid

Client ID: NA

Sample Date : NA
Receipt Date : NA
Report Date : 01/26/95

Quanterra ID : EXTBLK56439-1

Analyte	Method	TCLP Extract Date	Prep Date	Analyses Date	Result	Units	Qual.	Detection Limit	Regulatory Level	Dilution
Arsenic	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		2.0	5.0	4
Barium	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.80	100	4
Cadmium	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.020	1.0	4
Chromium	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.080	5.0	4
Lead	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.40	5.0	4
Selenium	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		1.0	1.0	4
Silver	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.040	5.0	4

Engineering Science, Inc.
400 Woods Mill Road
Suite 330
Chesterfield, MO 63017

Project: 135.08

Category : TCLP ICAP
Matrix : Solid

Client ID: NA

Sample Date : NA
Receipt Date : NA
Report Date : 01/26/95

Quanterra ID : EXTBLK56440-1

Analyte	Method	TCLP Extract Date	Prep Date	Analyses Date	Result	Units	Qual.	Detection Limit	Regulatory Level	Dilution
Arsenic	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		2.0	5.0	4
Barium	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.80	100	4
Cadmium	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.020	1.0	4
Chromium	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.080	5.0	4
Lead	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.40	5.0	4
Selenium	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		1.0	1.0	4
Silver	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.040	5.0	4

Engineering Science, Inc.
400 Woods Mill Road
Suite 330
Chesterfield, MO 63017

Project: 135.08

Category : TCLP ICAP
Matrix : Water

Client ID: NA

Sample Date : NA
Receipt Date : NA
Report Date : 01/26/95

Quanterra ID : QCBK56723-1

Analyte	Method	TCLP Extract Date	Prep Date	Analyses Date	Result	Units	Qual.	Detection Limit	Regulatory Level	Dilution
Arsenic	EPA 6010	NA	01/16/95	01/17/95	ND	MG/L		0.50	5.0	1
Barium	EPA 6010	NA	01/16/95	01/17/95	ND	MG/L		0.20	100	1
Cadmium	EPA 6010	NA	01/16/95	01/17/95	ND	MG/L		0.005	1.0	1
Chromium	EPA 6010	NA	01/16/95	01/17/95	ND	MG/L		0.020	5.0	1
Lead	EPA 6010	NA	01/16/95	01/17/95	ND	MG/L		0.10	5.0	1
Selenium	EPA 6010	NA	01/16/95	01/17/95	ND	MG/L		0.25	1.0	1
Silver	EPA 6010	NA	01/16/95	01/17/95	ND	MG/L		0.010	5.0	1

Engineering Science, Inc.
400 Woods Mill Road
Suite 330
Chesterfield, MO 63017

Project: 135.08

Category : TCLP ICAP
Matrix : Water

Client ID: NA

Sample Date : NA
Receipt Date : NA
Report Date : 01/26/95

Quanterra ID : QCLCS56723-1

Analyte	Method	TCLP Extract Date	Prep Date	Analyses Date	Result	Units	Qual.	Detection Limit	Regulatory Level	Dilution
Arsenic	EPA 6010	NA	01/16/95	01/17/95	104	%REC				1
Barium	EPA 6010	NA	01/16/95	01/17/95	96	%REC				1
Cadmium	EPA 6010	NA	01/16/95	01/17/95	99	%REC				1
Chromium	EPA 6010	NA	01/16/95	01/17/95	101	%REC				1
Lead	EPA 6010	NA	01/16/95	01/17/95	101	%REC				1
Selenium	EPA 6010	NA	01/16/95	01/17/95	101	%REC				1
Silver	EPA 6010	NA	01/16/95	01/17/95	64	%REC				1



Engineering Science, Inc.
400 Woods Mill Road
Suite 330
Chesterfield, MO 63017

Project: 135.08

Category : TCLP Mercury
Matrix : Solid
Client ID: SB-11-SS2-4-6

Sample Date : 11/02/94
Receipt Date : 11/04/94
Report Date : 02/01/95
Quanterra ID : 7296-001

Analyte	Method	TCLP Extract Date	Prep Date	Analyses Date	Result	Units	Qual.	Detection Limit	Regulatory Level	Dilution
Mercury	EPA 7470	01/12/94	01/27/95	01/27/95	ND	MG/L		0.0002	0.20	1

Engineering Science, Inc.
400 Woods Mill Road
Suite 330
Chesterfield, MO 63017

Project: 135.08

Category : TCLP Mercury
Matrix : Solid

Client ID: SB-13-SS3-8-10

Sample Date : 11/02/94
Receipt Date : 11/04/94
Report Date : 02/01/95

Quanterra ID : 7296-002

Analyte	Method	TCLP Extract Date	Prep Date	Analyses Date	Result	Units	Qual.	Detection Limit	Regulatory Level	Dilution
Mercury	EPA 7470	01/12/94	01/27/95	01/27/95	ND	MG/L		0.0002	0.20	1

Engineering Science, Inc.
400 Woods Mill Road
Suite 330
Chesterfield, MO 63017

Project: 135.08

Category : TCLP Mercury
Matrix : Solid

Client ID: SB-14-SS1-0-2

Sample Date : 11/02/94
Receipt Date : 11/04/94
Report Date : 02/01/95

Quanterra ID : 7296-003

Analyte	Method	TCLP Extract Date	Prep Date	Analyses Date	Result	Units	Qual.	Detection Limit	Regulatory Level	Dilution
Mercury	EPA 7470	01/12/94	01/27/95	01/27/95	ND	MG/L		0.0002	0.20	1

Engineering Science, Inc.
400 Woods Mill Road
Suite 330
Chesterfield, MO 63017

Project: 135.08

Category : TCLP Mercury
Matrix : Solid

Client ID: SB-15-SS1-2-4

Sample Date : 11/02/94
Receipt Date : 11/04/94
Report Date : 02/01/95

Quanterra ID : 7296-004

Analyte	Method	TCLP Extract Date	Prep Date	Analyses Date	Result	Units	Qual.	Detection Limit	Regulatory Level	Dilution
Mercury	EPA 7470	01/12/94	01/27/95	01/27/95	ND	MG/L		0.0002	0.20	1

Engineering Science, Inc.
400 Woods Mill Road
Suite 330
Chesterfield, MO 63017

Project: 135.08

Category : TCLP Mercury
Matrix : Solid

Client ID: SB-22-SS2-6-7

Sample Date : 11/02/94
Receipt Date : 11/04/94
Report Date : 02/01/95

Quanterra ID : 7296-005

Analyte	Method	TCLP Extract Date	Prep Date	Analyses Date	Result	Units	Qual.	Detection Limit	Regulatory Level	Dilution
Mercury	EPA 7470	01/12/94	01/27/95	01/27/95	ND	MG/L		0.0002	0.20	1

Engineering Science, Inc.
400 Woods Mill Road
Suite 330
Chesterfield, MO 63017

Project: 135.08

Category : TCLP Mercury
Matrix : Solid

Client ID: SB-17-SS1-2-4

Sample Date : 11/03/94
Receipt Date : 11/04/94
Report Date : 02/01/95

Quanterra ID : 7296-006

Analyte	Method	TCLP Extract Date	Prep Date	Analyses Date	Result	Units	Qual.	Detection Limit	Regulatory Level	Dilution
Mercury	EPA 7470	01/12/94	01/27/95	01/27/95	ND	MG/L		0.0002	0.20	1

Engineering Science, Inc.
400 Woods Mill Road
Suite 330
Chesterfield, MO 63017



Project: 135.08

Category : TCLP Mercury
Matrix : Solid

Sample Date : 11/03/94
Receipt Date : 11/04/94
Report Date : 02/01/95

Client ID: SB-17-SS3-6-8

Quanterra ID : 7296-007

Analyte	Method	TCLP Extract Date	Prep Date	Analyses Date	Result	Units	Qual.	Detection Limit	Regulatory Level	Dilution
Mercury	EPA 7470	01/12/94	01/27/95	01/27/95	ND	MG/L		0.0002	0.20	1

Engineering Science, Inc.
400 Woods Mill Road
Suite 330
Chesterfield, MO 63017

Project: 135.08

Category : TCLP Mercury
Matrix : Solid

Client ID: SB-28-SS1-2-4

Sample Date : 11/03/94
Receipt Date : 11/04/94
Report Date : 02/01/95

Quanterra ID : 7296-008

Analyte	Method	TCLP Extract Date	Prep Date	Analyses Date	Result	Units	Qual.	Detection Limit	Regulatory Level	Dilution
Mercury	EPA 7470	01/12/94	01/27/95	01/27/95	ND	MG/L		0.0002	0.20	1

Engineering Science, Inc.
400 Woods Mill Road
Suite 330
Chesterfield, MO 63017

Project: 135.08

Category : TCLP Mercury
Matrix : Solid

Client ID: SB-31-SS2-6-8

Sample Date : 11/03/94
Receipt Date : 11/04/94
Report Date : 02/01/95

Quanterra ID : 7296-009

Analyte	Method	TCLP Extract Date	Prep Date	Analyses Date	Result	Units	Qual.	Detection Limit	Regulatory Level	Dilution
Mercury	EPA 7470	01/12/94	01/27/95	01/27/95	ND	MG/L		0.0002	0.20	1

Engineering Science, Inc.
400 Woods Mill Road
Suite 330
Chesterfield, MO 63017

Project: 135.08

Category : TCLP Mercury
Matrix : Solid

Client ID: SS-32-SS2-6-8

Sample Date : 11/03/94
Receipt Date : 11/04/94
Report Date : 02/01/95

Quanterra ID : 7296-010

Analyte	Method	TCLP Extract Date	Prep Date	Analyses Date	Result	Units	Qual.	Detection Limit	Regulatory Level	Dilution
Mercury	EPA 7470	01/12/94	01/27/95	01/27/95	ND	MG/L		0.0002	0.20	1

Engineering Science, Inc.
400 Woods Mill Road
Suite 330
Chesterfield, MO 63017



Project: 135.08

Category : TCLP Mercury
Matrix : Soil

Client ID: NA

Sample Date : NA
Receipt Date : NA
Report Date : 02/01/95

Quanterra ID : EXTBLK56440-1

Analyte	Method	TCLP Extract Date	Prep Date	Analyses Date	Result	Units	Qual.	Detection Limit	Regulatory Level	Dilution
Mercury	EPA 7470	01/12/94	01/27/95	01/27/95	ND	MG/L		0.0002	0.20	1

Engineering Science, Inc.
400 Woods Mill Road
Suite 330
Chesterfield, MO 63017



Project: 135.08

Category : TCLP Mercury
Matrix : Soil

Client ID: NA

Sample Date : NA
Receipt Date : NA
Report Date : 02/01/95

Quanterra ID : EXTBLK56439-1

Analyte	Method	TCLP Extract Date	Prep Date	Analyses Date	Result	Units	Qual.	Detection Limit	Regulatory Level	Dilution
Mercury	EPA 7470	01/12/94	01/27/95	01/27/95	ND	MG/L		0.0002	0.20	1

Engineering Science, Inc.
400 Woods Mill Road
Suite 330
Chesterfield, MO 63017



Project: 135.08

Category : TCLP Mercury
Matrix : Soil

Client ID: NA

Sample Date : NA
Receipt Date : NA
Report Date : 02/01/95

Quanterra ID : QCBLK57871-1

Analyte	Method	TCLP Extract Date	Prep Date	Analyses Date	Result	Units	Qual.	Detection Limit	Regulatory Level	Dilution
Mercury	EPA 7470	NA	01/27/95	01/27/95	ND	MG/L		0.0002	0.20	1

Engineering Science, Inc.
400 Woods Mill Road
Suite 330
Chesterfield, MO 63017

Project: 135.08

Category : TCLP Mercury
Matrix : Soil

Client ID: NA

Sample Date : NA
Receipt Date : NA
Report Date : 02/01/95

Quanterra ID : QCLCS57871-1

Analyte	Method	TCLP Extract Date	Prep Date	Analyses Date	Result	Units	Qual.	Detection Limit	Regulatory Level	Dilution
Mercury	EPA 7470	NA	01/27/95	01/27/95	110	%REC				1

APPENDIX E

LABORATORY REPORTS

FOR ORGANICS ANALYSES

Quanterra Incorporated
13715 Rider Trail North
Earth City, Missouri 63045

314 298-8566 Telephone
314 298-8757 Fax

RECEIVED

FEB 06 1995

ES-ST. LOUIS

CERTIFICATE OF ANALYSIS

Engineering Science
400 Woods Mill Road
Suite 300
Chesterfield, MO 63017

February 2, 1995

Attention: Mr. Lee Gorday

Project number	:	135.08
Date Received by Lab	:	January 4, 1995
Number of Samples	:	Six (6)
Sample Type	:	Solid
Subcontract Number	:	726589-S-001

I. Introduction

On January 4, 1995, six (6) solid samples were received by Quanterra, St. Louis from Engineering Science analyses. The results of these analyses, along with supporting quality control data and custody documents, are included in the attached report. Upon receipt at the laboratory, the samples were given the following laboratory ID numbers to correspond with its specific client ID's:

<u>CLIENT ID</u>	<u>St. Louis ID</u>
BG-ASH-1	7254-001
BG-ASH-2	7254-002
BG-ASH-3	7254-003
HA1-3-4	7254-004
HA2-3-4	7254-005
HA3-3-4	7254-006

Engineering Science
February 2, 1995
Project Number 135.08
page 2

II. Analytical Results/ Methodology

The analytical results for this report are presented by analytical test. Each set of data will include sample identification information, analytical results, and the appropriate detection limits.

The analysis requested included: VOA by EPA method 8240. Gross Alpha/Beta by EPA method 900.0. BNA by EPA 8270.

III. Quality Control

The Quality Assurance/Quality Control (QA/QC) information supporting this analysis can be found immediately following the analytical data. These data are used to assess the laboratory's precision and accuracy during the analytical procedure.

IV. Comments

Samples arrived in St. Louis at 8° C which is not within the recommended 4° C \pm 2° C.

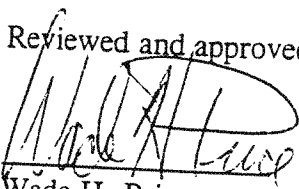
Client chain of custody requested PAH by 8310. Laboratory and client agreed to run BNA analysis by method 8270.

There was no comments or non-conformances associated with these analyses.

Engineering Science
February 2, 1995
Project Number 135.08
page 3

I certify that this Certificate of Analysis is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.

Reviewed and approved:



Wade H. Price

Project Manager

e:\sqm\01\wadeprice\abbydave\7254pes.coa

Project Manager: W. Price

Draft: Final

Entered and Reviewed by Paul Conant

PM Review: Paul Jones

Sample Header Template:

Sample No. #	Comments Container Type	Client ID	C-Matrix Analysis	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.
Data:				Class	Preservative	Anal. Due Date	Hold Date Site		(Container Numbers: % Filled)
7254-001	BQ-ASH-1		Solid	04-JAN-95 14:30	04-JAN-95 16:00	03-FEB-95	CLIENT	3*	R3406-006
2	GM - Glass Jar-250ML		ABT/9310/Q4	S COLD	01-FEB-95	03-JUL-95	S4J	(122928:100 122929:99)	
1			RAD/SCREEN/Q4	S COLD	01-FEB-95	03-JUL-95	S4J	(122928:100)	
7254-002	BQ-ASH-2		Solid	04-JAN-95 14:40	04-JAN-95 16:00	03-FEB-95	CLIENT	3*	R3406-005
2	GM - Glass Jar-250ML		ABT/9310/Q4	S COLD	01-FEB-95	03-JUL-95	S4J	(122930:100 122931:99)	
1			RAD/SCREEN/Q4	S COLD	01-FEB-95	03-JUL-95	S4J	(122930:100)	
7254-003	BQ-ASH-3		Solid	04-JAN-95 14:50	04-JAN-95 16:00	03-FEB-95	CLIENT	3*	R3406-004
2	GM - Glass Jar-250ML		ABT/9310/Q4	S COLD	01-FEB-95	03-JUL-95	S4J	(122932:100 122933:99)	
1			RAD/SCREEN/Q4	S COLD	01-FEB-95	03-JUL-95	S4J	(122932:100)	
7254-004	HA1-3-4		Solid	04-JAN-95 15:15	04-JAN-95 16:00	03-FEB-95	CLIENT	3*	R3406-003
1	GM - Glass Jar-250ML		BNA/8270/Q4	S COLD	01-FEB-95	18-JAN-95	S4J	(122935:99)	
1			PM/IT/Q4	S COLD	01-FEB-95	03-JUL-95	S4J	(122935:99)	
1			RAD/SCREEN/Q4	S COLD	01-FEB-95	03-JUL-95	S4J	(122935:99)	
1			VOA/8240/Q4	S COLD	01-FEB-95	18-JAN-95	109M	(122934:100)	
7254-005	HA2-3-4		Solid	04-JAN-95 15:25	04-JAN-95 16:00	03-FEB-95	CLIENT	3*	R3406-002
1	GM - Glass Jar-250ML		BNA/8270/Q4	S COLD	01-FEB-95	18-JAN-95	S4J	(122937:99)	
1			PM/IT/Q4	S COLD	01-FEB-95	03-JUL-95	S4J	(122937:99)	
1			RAD/SCREEN/Q4	S COLD	01-FEB-95	03-JUL-95	S4J	(122937:99)	
1			VOA/8240/Q4	S COLD	01-FEB-95	18-JAN-95	109M	(122936:100)	
7254-006	HA3-3-4		Solid	04-JAN-95 15:40	04-JAN-95 16:00	03-FEB-95	CLIENT	3*	R3406-001
1	GM - Glass Jar-250ML		BNA/8270/Q4	S COLD	01-FEB-95	18-JAN-95	S4J	(122939:99)	
1			PM/IT/Q4	S COLD	01-FEB-95	03-JUL-95	S4J	(122939:99)	
1			RAD/SCREEN/Q4	S COLD	01-FEB-95	03-JUL-95	S4J	(122939:99)	
1			VOA/8240/Q4	S COLD	01-FEB-95	18-JAN-95	109M	(122938:100)	

3*=Sample has not been rad screened.

No. 02401

Chain-of Custody Record

[illegible]

Temp 8°C Cuck#2773

Parsons **ENGINEERING-SCIENCE**
 400-425 WOODS MILL ROAD SOUTH, SUITE 400 330
 CHESTERFIELD, MISSOURI 63017
 (314) 576-7330 FAX (314) 576-2702

No. 02401

Chain-of Custody Record

PROJ. NO.		PROJECT NAME/LOCATION		NO. OF CONTAINERS		PARAMETER							
726589		Anglica St. / St. Louis				<div style="display: flex; justify-content: space-between;"> <div>8310</div> <div>8240</div> </div>							
SAMPLERS: (Signature)													
Lee T. Gandy													
STA. NO.	DATE	TIME	COMP.	GRAB	LOCATION								
	1-4-95	1430		X	ASH-1	2	X						
		1440		X	ASH-2	2	X						
		1450		X	ASH-3	2	X						
		1515		X	HA1-3-4	2		X	X				
		1525		X	HA2-3-4	2		X	X				
		1540		X	HA3-3-4	2		X	X				
					Sample No. 96								
					SCW								
Relinquished by: (Signature)		Date / Time		Received by: (Signature)		Relinquished by: (Signature)		Date / Time		Received by: (Signature)			
Lee T. Gandy		1-4-95 12:30		Debra Byrd									
Relinquished by: (Signature)		Date / Time		Received by: (Signature)		Relinquished by: (Signature)		Date / Time		Received by: (Signature)			
Relinquished by: (Signature)		Date / Time		Received for Laboratory by: (Signature)		Date / Time		Remarks					
								Method of Shipment: _____ Airbill #: _____ Laboratory: _____ Cooler #: _____					

Distribution Original Accompanies Shipment. Copy returned with Report.

C.U.R. and C.C.C.
COPIED TO: BW & WP
DATE: 1-4-95
TIME: 13:45
BY: DM

Condition Upon Receipt Variance Report
St. Louis Laboratory

Work Order No.: 7254

Client: _____

Date: 1-8-95 12:30

Project No: _____

Initiated by: 2nd Muhl

Analysis Requested: Refer to RFA/COC

RFA/COC Numbers: 02401

Client Sample Numbers Affected: Entire Login

Condition/Variance (Check all that apply): Circle Number to Denote that Item was Evaluated. "NA" = "Not Applicable".

1. <input type="checkbox"/> NA	Not enough sample received for proper analysis. Received approximately: _____	8. <input type="checkbox"/>	Custody tape disturbed/broken/missing.
2. <input type="checkbox"/>	Sample received broken/leaking.	9. <input type="checkbox"/> NA	Sample splits performed by lab.
3. <input type="checkbox"/>	Sample received without proper preservative. <input type="checkbox"/> Cooler temperature not within 4°C ± 2°C Record temperature: <u>8°C</u> <input type="checkbox"/> pH _____ <input type="checkbox"/> other: _____	10. <input type="checkbox"/> NA	Volatile sample received with approximately _____ mm headspace.
4. <input type="checkbox"/>	Sample received in improper container.	11. <input type="checkbox"/>	Sample ID on container does not match sample ID on paperwork. Explain: _____
5. <input type="checkbox"/>	Sample received without proper paperwork. Explain: _____	12. <input type="checkbox"/>	All coolers on airbill not received with shipment.
6. <input type="checkbox"/>	Paperwork received without sample.	13. <input checked="" type="checkbox"/>	Other (explain below): <u>Shipping containers not rad surveyed.</u> <u>See notes</u>
7. <input type="checkbox"/>	No sample ID on sample container.		

Notes: HA2-3-4; Time collected Does not match
C.O.C. 15:25 / Containers 13:25

Corrective Action:

- ☐ Client's Name: _____ Informed verbally on: _____ By: _____
- ☐ Client's Name: _____ Informed in writing on: _____ By: _____
- ☐ Sample(s) processed "as is". Comments: _____
- ☐ Sample(s) on hold until: _____ If released, notify: _____

Sample Control Supervisor Review: (or designate) _____ Date: _____

Project Management Review: _____ Date: _____

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

Engineering Science, Inc.
400 Woods Mill Road
Suite 330
Chesterfield, MO 63017

Project: 135.08

Category: Volatiles
Method: EPA 8240
Matrix: Solid

Client ID: HA1-3-4

Sample Date : 01/04/95
Receipt Date : 01/04/95
Report Date : 01/27/95

Quanterra ID : 7254-004

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		15	1
Bromomethane	74-83-9	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		15	1
Vinyl Chloride	75-01-4	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		15	1
Chloroethane	75-00-3	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		15	1
Methylene Chloride	75-09-2	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		15	1
Acetone	67-64-1	QCBLK56534-1	01/12/95	01/12/95	8	UG/KG	B	8	1
Carbon Disulfide	75-15-0	QCBLK56534-1	01/12/95	01/12/95	36	UG/KG	BJ	150	1
1,1-Dichloroethene	75-35-4	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		8	1
1,1-Dichloroethane	75-34-3	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		8	1
trans-1,2-Dichloroethene	156-60-5	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		8	1
Chloroform	67-66-3	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		8	1
1,2-Dichloroethane	107-06-2	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		8	1
2-Butanone	78-93-3	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		8	1
1,1,1-Trichloroethane	71-55-6	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		150	1
Carbon Tetrachloride	56-23-5	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		8	1
Vinyl Acetate	108-05-4	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		8	1
Bromodichloromethane	75-27-4	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		76	1
1,2-Dichloropropane	78-87-5	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		8	1
cis-1,3-Dichloropropene	10061-01-5	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		8	1
Trichloroethene	79-01-6	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		8	1
Dibromochloromethane	124-48-1	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		8	1
1,1,2-Trichloroethane	79-00-5	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		8	1
Benzene	71-43-2	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		8	1
trans-1,3-Dichloropropene	10061-02-6	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		8	1
2-Chloroethyl vinyl ether	110-75-8	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		8	1
Bromoform	75-25-2	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		15	1
4-Methyl-2-Pentanone	108-10-1	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		8	1
2-Hexanone	591-78-6	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		76	1
Tetrachloroethene	127-18-4	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		76	1
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		8	1
Toluene	108-88-3	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		8	1
Chlorobenzene	108-90-7	QCBLK56534-1	01/12/95	01/12/95	3	UG/KG	J	8	1
Ethylbenzene	100-41-4	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		8	1
Styrene	100-42-5	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		8	1
Xylene (total)	1330-20-7	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		8	1
Toluene-d8 (SURR)	2037-26-5	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		8	1
Bromofluorobenzene (SURR)	460-00-4	QCBLK56534-1	01/12/95	01/12/95	114	%REC			1
1,2-Dichloroethane-d4 (SURR)	17070-07-0	QCBLK56534-1	01/12/95	01/12/95	88	%REC			1
			01/12/95	01/12/95	97	%REC			1

Engineering Science, Inc.
400 Woods Mill Road
Suite 330
Chesterfield, MO 63017

Category: Volatiles
Method: EPA 8240
Matrix: Solid

Project: 135.08

Sample Date : 01/04/95
Receipt Date : 01/04/95
Report Date : 01/27/95

Client ID: HA2-3-4

Quanterra ID : 7254-005

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		15	1
Bromomethane	74-83-9	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		15	1
Vinyl Chloride	75-01-4	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		15	1
Chloroethane	75-00-3	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		15	1
Methylene Chloride	75-09-2	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		15	1
Acetone	67-64-1	QCBLK56534-1	01/12/95	01/12/95	9	UG/KG	B	7	1
Carbon Disulfide	75-15-0	QCBLK56534-1	01/12/95	01/12/95	38	UG/KG	BJ	150	1
1,1-Dichloroethene	75-35-4	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		7	1
1,1-Dichloroethane	75-34-3	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		7	1
trans-1,2-Dichloroethene	156-60-5	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		7	1
Chloroform	67-66-3	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		7	1
1,2-Dichloroethane	107-06-2	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		7	1
2-Butanone	78-93-3	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		7	1
1,1,1-Trichloroethane	71-55-6	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		7	1
Carbon Tetrachloride	56-23-5	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		150	1
Vinyl Acetate	108-05-4	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		7	1
Bromodichloromethane	75-27-4	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		7	1
1,2-Dichloropropane	78-87-5	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		74	1
cis-1,3-Dichloropropene	10061-01-5	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		7	1
Trichloroethene	79-01-6	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		7	1
Dibromochloromethane	124-48-1	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		7	1
1,1,2-Trichloroethane	79-00-5	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		7	1
Benzene	71-43-2	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		7	1
trans-1,3-Dichloropropene	10061-02-6	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		7	1
2-Chloroethyl vinyl ether	110-75-8	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		7	1
Bromoform	75-25-2	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		7	1
4-Methyl-2-Pentanone	108-10-1	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		15	1
2-Hexanone	591-78-6	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		7	1
Tetrachloroethene	127-18-4	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		74	1
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		74	1
Toluene	108-88-3	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		7	1
Chlorobenzene	108-90-7	QCBLK56534-1	01/12/95	01/12/95	3	UG/KG	J	7	1
Ethylbenzene	100-41-4	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		7	1
Styrene	100-42-5	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		7	1
Xylene (total)	1330-20-7	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		7	1
Toluene-d8 (SURR)	2037-26-5	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		7	1
Bromofluorobenzene (SURR)	460-00-4	QCBLK56534-1	01/12/95	01/12/95	115	%REC		7	1
1,2-Dichloroethane-d4 (SURR)	17070-07-0	QCBLK56534-1	01/12/95	01/12/95	89	%REC			1
			01/12/95	01/12/95	97	%REC			1

Engineering Science, Inc.
400 Woods Mill Road
Suite 330
Chesterfield, MO 63017

Project: 135.08

Category: Volatiles
Method: EPA 8240
Matrix: Solid

Client ID: HA3-3-4

Sample Date : 01/04/95
Receipt Date : 01/04/95
Report Date : 01/27/95

Quanterra ID : 7254-006

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG	15	1
Bromomethane	74-83-9	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG	15	1
Vinyl Chloride	75-01-4	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG	15	1
Chloroethane	75-00-3	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG	15	1
Methylene Chloride	75-09-2	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG	15	1
Acetone	67-64-1	QCBLK56534-1	01/12/95	01/12/95	8	UG/KG B	8	1
Carbon Disulfide	75-15-0	QCBLK56534-1	01/12/95	01/12/95	21	UG/KG BJ	150	1
1,1-Dichloroethene	75-35-4	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG	8	1
1,1-Dichloroethane	75-34-3	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG	8	1
trans-1,2-Dichloroethene	156-60-5	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG	8	1
Chloroform	67-66-3	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG	8	1
1,2-Dichloroethane	107-06-2	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG	8	1
2-Butanone	78-93-3	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG	8	1
1,1,1-Trichloroethane	71-55-6	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG	150	1
Carbon Tetrachloride	56-23-5	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG	8	1
Vinyl Acetate	108-05-4	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG	8	1
Bromodichloromethane	75-27-4	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG	8	1
1,2-Dichloropropane	78-87-5	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG	75	1
cis-1,3-Dichloropropene	10061-01-5	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG	8	1
Trichloroethene	79-01-6	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG	8	1
Dibromochloromethane	124-48-1	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG	8	1
1,1,2-Trichloroethane	79-00-5	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG	8	1
Benzene	71-43-2	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG	8	1
trans-1,3-Dichloropropene	10061-02-6	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG	8	1
2-Chloroethyl vinyl ether	110-75-8	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG	8	1
Bromoform	75-25-2	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG	15	1
4-Methyl-2-Pentanone	108-10-1	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG	8	1
2-Hexanone	591-78-6	QCBLK56534-1	01/12/95	01/12/95	3	UG/KG J	75	1
Tetrachloroethene	127-18-4	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG	75	1
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG	8	1
Toluene	108-88-3	QCBLK56534-1	01/12/95	01/12/95	1	UG/KG J	8	1
Chlorobenzene	108-90-7	QCBLK56534-1	01/12/95	01/12/95	3	UG/KG J	8	1
Ethylbenzene	100-41-4	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG	8	1
Styrene	100-42-5	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG	8	1
Xylene (total)	1330-20-7	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG	8	1
Toluene-d8 (SURR)	2037-26-5	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG	8	1
Bromofluorobenzene (SURR)	460-00-4	QCBLK56534-1	01/12/95	01/12/95	113	%REC	8	1
1,2-Dichloroethane-d4 (SURR)	17070-07-0	QCBLK56534-1	01/12/95	01/12/95	90	%REC		1
					98	%REC		1

Engineering Science, Inc.
400 Woods Mill Road
Suite 330
Chesterfield, MO 63017

Project: 135.08

Category: Volatiles
Method: EPA 8240
Matrix: Solid

Client ID: NA

Sample Date : NA
Receipt Date : NA
Report Date : 01/27/95

Quanterra ID : QCBLK56534-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		10	1
Bromomethane	74-83-9	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		10	1
Vinyl Chloride	75-01-4	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		10	1
Chloroethane	75-00-3	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		10	1
Methylene Chloride	75-09-2	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		10	1
Acetone	67-64-1	QCBLK56534-1	01/12/95	01/12/95	6	UG/KG		5	1
Carbon Disulfide	75-15-0	QCBLK56534-1	01/12/95	01/12/95	23	UG/KG	J	100	1
1,1-Dichloroethene	75-35-4	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		5	1
1,1-Dichloroethane	75-34-3	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		5	1
trans-1,2-Dichloroethene	156-60-5	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		5	1
Chloroform	67-66-3	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		5	1
1,2-Dichloroethane	107-06-2	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		5	1
2-Butanone	78-93-3	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		5	1
1,1,1-Trichloroethane	71-55-6	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		5	1
Carbon Tetrachloride	56-23-5	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		100	1
Vinyl Acetate	108-05-4	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		5	1
Bromodichloromethane	75-27-4	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		5	1
1,2-Dichloropropane	78-87-5	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		50	1
cis-1,3-Dichloropropene	10061-01-5	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		5	1
Trichloroethene	79-01-6	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		5	1
Dibromochloromethane	124-48-1	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		5	1
1,1,2-Trichloroethane	79-00-5	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		5	1
Benzene	71-43-2	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		5	1
trans-1,3-Dichloropropene	10061-02-6	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		5	1
2-Chloroethyl vinyl ether	110-75-8	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		5	1
Bromoform	75-25-2	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		5	1
4-Methyl-2-Pentanone	108-10-1	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		10	1
2-Hexanone	591-78-6	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		5	1
Tetrachloroethene	127-18-4	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		50	1
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		50	1
Toluene	108-88-3	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		5	1
Chlorobenzene	108-90-7	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		5	1
EthylBenzene	100-41-4	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		5	1
Styrene	100-42-5	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		5	1
Xylene (total)	1330-20-7	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		5	1
Toluene-d8 (SURR)	2037-26-5	QCBLK56534-1	01/12/95	01/12/95	ND	UG/KG		5	1
Bromofluorobenzene (SURR)	460-00-4	QCBLK56534-1	01/12/95	01/12/95	107	%REC		5	1
1,2-Dichloroethane-d4 (SURR)	17070-07-0	QCBLK56534-1	01/12/95	01/12/95	105	%REC			1
			01/12/95	01/12/95	97	%REC			1

Engineering Science, Inc.
400 Woods Mill Road
Suite 330
Chesterfield, MO 63017

Project: 135.08

Category: Volatiles
Method: EPA 8240
Matrix: Solid

Sample Date : NA
Receipt Date : NA
Report Date : 01/27/95

Client ID: NA

Quanterra ID : QCLCS56534-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
1,1-Dichloroethene	75-35-4	QCBLK56534-1	01/12/95	01/12/95	97	%REC			1
Trichloroethene	79-01-6	QCBLK56534-1	01/12/95	01/12/95	96	%REC			1
Benzene	71-43-2	QCBLK56534-1	01/12/95	01/12/95	96	%REC			1
Toluene	108-88-3	QCBLK56534-1	01/12/95	01/12/95	94	%REC			1
Chlorobenzene	108-90-7	QCBLK56534-1	01/12/95	01/12/95	97	%REC			1
Toluene-d8 (SURR)	2037-26-5	QCBLK56534-1	01/12/95	01/12/95	103	%REC			1
Bromofluorobenzene (SURR)	460-00-4	QCBLK56534-1	01/12/95	01/12/95	102	%REC			1
1,2-Dichloroethane-d4 (SURR)	17070-07-0	QCBLK56534-1	01/12/95	01/12/95	98	%REC			1

Engineering Science, Inc.
400 Woods Mill Road
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Category: Semivolatile
Method: EPA 8270
Matrix: Solid

Project: 135.08

Sample Date : 01/04/95
Receipt Date : 01/04/95
Report Date : 01/26/95

Client ID: HA1-3-4

Quanterra ID : 7254-004

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Phenol	108-95-2	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
bis(2-Chloroethyl)Ether	111-44-4	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
2-Chlorophenol	95-57-8	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
1,3-Dichlorobenzene	541-73-1	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
1,4-Dichlorobenzene	106-46-7	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
Benzyl Alcohol	100-51-6	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
1,2-Dichlorobenzene	95-50-1	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		1000	1
2-Methylphenol	95-48-7	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
bis(2-Chloroisopropyl)Ether	108-60-1	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
4-Methylphenol	106-44-5	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
N-nitroso-di-n-propylamine	621-64-7	QCBK56031-1	01/06/95	01/13/95	140	UG/KG	J	500	1
Hexachloroethane	67-72-1	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
Nitrobenzene	98-95-3	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
Isophorone	78-59-1	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
2-Nitrophenol	88-75-5	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
2,4-Dimethylphenol	105-67-9	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
Benzoic Acid	65-85-0	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
bis(2-Chloroethoxy)Methane	111-91-1	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		2400	1
2,4-Dichlorophenol	120-83-2	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
1,2,4-Trichlorobenzene	120-82-1	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
Naphthalene	91-20-3	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
4-Chloroaniline	106-47-8	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
Hexachlorobutadiene	87-68-3	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		1000	1
4-Chloro-3-Methylphenol	59-50-7	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
2-Methylnaphthalene	91-57-6	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		1000	1
Hexachlorocyclopentadiene	77-47-4	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
2,4,6-Trichlorophenol	88-06-2	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
2,4,5-Trichlorophenol	95-95-4	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
2-Chloronaphthalene	91-58-7	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
2-Nitroaniline	88-74-4	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
DimethylPhthalate	131-11-3	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		2400	1
Acenaphthylene	208-96-8	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
2,6-Dinitrotoluene	606-20-2	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
3-Nitroaniline	99-09-2	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
Acenaphthene	83-32-9	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		2400	1
2,4-Dinitrophenol	51-28-5	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
4-Nitrophenol	100-02-7	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		2400	1
Dibenzofuran	132-64-9	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		2400	1
2,4-Dinitrotoluene	121-14-2	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
Diethylphthalate	84-66-2	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
4-Chlorophenyl-PhenylEther	7005-72-3	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
Fluorene	86-73-7	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
4-Nitroaniline	100-01-6	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
4,6-Dinitro-2-Methylphenol	534-52-1	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		2400	1
n-Nitrosodiphenylamine (1)	86-30-6	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		2400	1
4-Bromophenyl-Phenyl Ether	101-55-3	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
Hexachlorobenzene	118-74-1	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
Pentachlorophenol	87-86-5	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
Phenanthrene	85-01-8	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		2400	1
Anthracene	120-12-7	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
Di-N-Butylphthalate	84-74-2	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
Fluoranthene	206-44-0	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
Pyrene	129-00-0	QCBK56031-1	01/06/95	01/13/95	75	UG/KG	J	500	1
ButylBenzylPhthalate	85-68-7	QCBK56031-1	01/06/95	01/13/95	68	UG/KG	J	500	1
3,3'-Dichlorobenzidine	91-94-1	QCBK56031-1	01/06/95	01/13/95	230	UG/KG	BJ	500	1
Benzo(a)Anthracene	56-55-3	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		1000	1
Chrysene	218-01-9	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
bis(2-Ethylhexyl)Phthalate	117-81-7	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
di-N-OctylPhthalate	117-84-0	QCBK56031-1	01/06/95	01/13/95	100	UG/KG	J	500	1
Benzo(b)Fluoranthene	205-99-2	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1

Engineering Science, Inc.
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Category: Semivolatile
Method: EPA 8270
Matrix: Solid

Project: 135.08

Sample Date : 01/04/95
Receipt Date : 01/04/95
Report Date : 01/26/95

Client ID: HA1-3-4

Quanterra ID : 7254-004

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result Unit	Qual.	Detection Limit	Dilution
Benzo(k)Fluoranthene	207-08-9	QCBLK56031-1	01/06/95	01/13/95	ND	UG/KG	500	1
Benzo(a)Pyrene	50-32-8	QCBLK56031-1	01/06/95	01/13/95	ND	UG/KG	500	1
Indeno(1,2,3-CD)Pyrene	193-39-5	QCBLK56031-1	01/06/95	01/13/95	ND	UG/KG	500	1
Dibenz(a,h)Anthracene	53-70-3	QCBLK56031-1	01/06/95	01/13/95	ND	UG/KG	500	1
Benzo(g,h,i)Perylene	191-24-2	QCBLK56031-1	01/06/95	01/13/95	ND	UG/KG	500	1
2-Fluorophenol	367-12-4	QCBLK56031-1	01/06/95	01/13/95	ND	UG/KG	500	1
Phenol-d5	13127-88-3	QCBLK56031-1	01/06/95	01/13/95	68	%REC		1
Nitrobenzene-d5	4165-60-0	QCBLK56031-1	01/06/95	01/13/95	68	%REC		1
2-Fluorobiphenyl	321-60-8	QCBLK56031-1	01/06/95	01/13/95	60	%REC		1
2,4,6-Tribromophenol	118-79-6	QCBLK56031-1	01/06/95	01/13/95	67	%REC		1
Terphenyl-d14	1718-51-0	QCBLK56031-1	01/06/95	01/13/95	73	%REC		1
			01/06/95	01/13/95	69	%REC		1

Engineering Science, Inc.
400 Woods Mill Road
Suite 330
Chesterfield, MO 63017

Category: Semivolatile
Method: EPA 8270
Matrix: Solid

Project: 135.08

Client ID: HA2-3-4

Sample Date : 01/04/95
Receipt Date : 01/04/95
Report Date : 01/26/95

Quanterra ID : 7254-005

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Phenol	108-95-2	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		490	1
bis(2-Chloroethyl)Ether	111-44-4	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		490	1
2-Chlorophenol	95-57-8	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		490	1
1,3-Dichlorobenzene	541-73-1	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		490	1
1,4-Dichlorobenzene	106-46-7	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		490	1
Benzyl Alcohol	100-51-6	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		490	1
1,2-Dichlorobenzene	95-50-1	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		970	1
2-Methylphenol	95-48-7	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		490	1
bis(2-Chloroisopropyl)Ether	108-60-1	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		490	1
4-Methylphenol	106-44-5	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		490	1
N-nitroso-di-n-propylamine	621-64-7	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		490	1
Hexachloroethane	67-72-1	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		490	1
Nitrobenzene	98-95-3	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		490	1
Isophorone	78-59-1	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		490	1
2-Nitrophenol	88-75-5	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		490	1
2,4-Dimethylphenol	105-67-9	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		490	1
Benzoic Acid	65-85-0	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		490	1
bis(2-Chloroethoxy)Methane	111-91-1	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		2400	1
2,4-Dichlorophenol	120-83-2	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		490	1
1,2,4-Trichlorobenzene	120-82-1	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		490	1
Naphthalene	91-20-3	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		490	1
4-Chloroaniline	106-47-8	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		490	1
Hexachlorobutadiene	87-68-3	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		970	1
4-Chloro-3-Methylphenol	59-50-7	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		490	1
2-Methylnaphthalene	91-57-6	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		970	1
Hexachlorocyclopentadiene	77-47-4	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		490	1
2,4,6-Trichlorophenol	88-06-2	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		490	1
2,4,5-Trichlorophenol	95-95-4	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		490	1
2-Chloronaphthalene	91-58-7	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		490	1
2-Nitroaniline	88-74-4	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		490	1
DimethylPhthalate	131-11-3	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		2400	1
Acenaphthylene	208-96-8	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		490	1
2,6-Dinitrotoluene	606-20-2	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		490	1
3-Nitroaniline	99-09-2	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		490	1
Acenaphthene	83-32-9	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		2400	1
2,4-Dinitrophenol	51-28-5	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		490	1
4-Nitrophenol	100-02-7	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		2400	1
Dibenzofuran	132-64-9	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		2400	1
2,4-Dinitrotoluene	121-14-2	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		490	1
Diethylphthalate	84-66-2	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		490	1
4-Chlorophenyl-PhenylEther	7005-72-3	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		490	1
Fluorene	86-73-7	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		490	1
4-Nitroaniline	100-01-6	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		490	1
4,6-Dinitro-2-Methylphenol	534-52-1	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		2400	1
n-Nitrosodiphenylamine (1)	86-30-6	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		2400	1
4-Bromophenyl-Phenyl Ether	101-55-3	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		490	1
Hexachlorobenzene	118-74-1	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		490	1
Pentachlorophenol	87-86-5	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		490	1
Phenanthrene	85-01-8	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		2400	1
Anthracene	120-12-7	QCBK56031-1	01/06/95	01/13/95	74	UG/KG	J	490	1
Di-N-Butylphthalate	84-74-2	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		490	1
Fluoranthene	206-44-0	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		490	1
Pyrene	129-00-0	QCBK56031-1	01/06/95	01/13/95	140	UG/KG	J	490	1
ButylBenzylPhthalate	85-68-7	QCBK56031-1	01/06/95	01/13/95	150	UG/KG	J	490	1
3,3'-Dichlorobenzidine	91-94-1	QCBK56031-1	01/06/95	01/13/95	380	UG/KG	BJ	490	1
Benzo(a)Anthracene	56-55-3	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		970	1
Chrysene	218-01-9	QCBK56031-1	01/06/95	01/13/95	60	UG/KG	J	490	1
bis(2-Ethylhexyl)Phthalate	117-81-7	QCBK56031-1	01/06/95	01/13/95	100	UG/KG	J	490	1
di-N-OctylPhthalate	117-84-0	QCBK56031-1	01/06/95	01/13/95	130	UG/KG	J	490	1
Benzo(b)Fluoranthene	205-99-2	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		490	1
					140	UG/KG	J	490	1

Engineering Science, Inc.
400 Woods Mill Road
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Category: Semivolatile
Method: EPA 8270
Matrix: Solid

Project: 135.08

Client ID: HA2-3-4

Sample Date : 01/04/95
Receipt Date : 01/04/95
Report Date : 01/26/95

Quanterra ID : 7254-005

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Benzo(k)Fluoranthene	207-08-9	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		490	1
Benzo(a)Pyrene	50-32-8	QCBK56031-1	01/06/95	01/13/95	53	UG/KG	J	490	1
Indeno(1,2,3-CD)Pyrene	193-39-5	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		490	1
Dibenz(a,h)Anthracene	53-70-3	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		490	1
Benzo(g,h,i)Perylene	191-24-2	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		490	1
2-Fluorophenol	367-12-4	QCBK56031-1	01/06/95	01/13/95	56	%REC		490	1
Phenol-d5	13127-88-3	QCBK56031-1	01/06/95	01/13/95	58	%REC			1
Nitrobenzene-d5	4165-60-0	QCBK56031-1	01/06/95	01/13/95	51	%REC			1
2-Fluorobiphenyl	321-60-8	QCBK56031-1	01/06/95	01/13/95	60	%REC			1
2,4,6-Tribromophenol	118-79-6	QCBK56031-1	01/06/95	01/13/95	67	%REC			1
Terphenyl-d14	1718-51-0	QCBK56031-1	01/06/95	01/13/95	66	%REC			1

Engineering Science, Inc.
400 Woods Mill Road
Suite 330
Chesterfield, MO 63017

Project: 135.08

Category: Semivolatile
Method: EPA 8270
Matrix: Solid

Client ID: HA3-3-4

Sample Date : 01/04/95
Receipt Date : 01/04/95
Report Date : 01/26/95

Quanterra ID : 7254-006

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Phenol	108-95-2	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
bis(2-Chloroethyl)Ether	111-44-4	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
2-Chlorophenol	95-57-8	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
1,3-Dichlorobenzene	541-73-1	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
1,4-Dichlorobenzene	106-46-7	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
Benzyl Alcohol	100-51-6	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
1,2-Dichlorobenzene	95-50-1	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		990	1
2-Methylphenol	95-48-7	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
bis(2-Chloroisopropyl)Ether	108-60-1	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
4-Methylphenol	106-44-5	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
N-nitroso-di-n-propylamine	621-64-7	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
Hexachloroethane	67-72-1	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
Nitrobenzene	98-95-3	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
Isophorone	78-59-1	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
2-Nitrophenol	88-75-5	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
2,4-Dimethylphenol	105-67-9	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
Benzoic Acid	65-85-0	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
bis(2-Chloroethoxy)Methane	111-91-1	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		2400	1
2,4-Dichlorophenol	120-83-2	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
1,2,4-Trichlorobenzene	120-82-1	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
Naphthalene	91-20-3	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
4-Chloroaniline	106-47-8	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
Hexachlorobutadiene	87-68-3	QCBK56031-1	01/06/95	01/13/95	350	UG/KG	J	990	1
4-Chloro-3-Methylphenol	59-50-7	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
2-Methylnaphthalene	91-57-6	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		990	1
Hexachlorocyclopentadiene	77-47-4	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
2,4,6-Trichlorophenol	88-06-2	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
2,4,5-Trichlorophenol	95-95-4	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
2-Chloronaphthalene	91-58-7	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
2-Nitroaniline	88-74-4	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
DimethylPhthalate	131-11-3	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		2400	1
Acenaphthylene	208-96-8	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
2,6-Dinitrotoluene	606-20-2	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
3-Nitroaniline	99-09-2	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
Acenaphthene	83-32-9	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		2400	1
2,4-Dinitrophenol	51-28-5	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
4-Nitrophenol	100-02-7	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		2400	1
Dibenzofuran	132-64-9	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		2400	1
2,4-Dinitrotoluene	121-14-2	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
Diethylphthalate	84-66-2	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
4-Chlorophenyl-Phenyl Ether	7005-72-3	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
Fluorene	86-73-7	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
4-Nitroaniline	100-01-6	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
4,6-Dinitro-2-Methylphenol	534-52-1	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		2400	1
n-Nitrosodiphenylamine (1)	86-30-6	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		2400	1
4-Bromophenyl-Phenyl Ether	101-55-3	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
Hexachlorobenzene	118-74-1	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
Pentachlorophenol	87-86-5	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
Phenanthrene	85-01-8	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		2400	1
Anthracene	120-12-7	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
Di-N-Butylphthalate	84-74-2	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
Fluoranthene	206-44-0	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
Pyrene	129-00-0	QCBK56031-1	01/06/95	01/13/95	110	UG/KG	J	500	1
ButylBenzylPhthalate	85-68-7	QCBK56031-1	01/06/95	01/13/95	110	UG/KG	J	500	1
3,3'-Dichlorobenzidine	91-94-1	QCBK56031-1	01/06/95	01/13/95	240	UG/KG	BJ	500	1
Benzo(a)Anthracene	56-55-3	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		990	1
Chrysene	218-01-9	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1
bis(2-Ethylhexyl)Phthalate	117-81-7	QCBK56031-1	01/06/95	01/13/95	78	UG/KG	J	500	1
di-N-OctylPhthalate	117-84-0	QCBK56031-1	01/06/95	01/13/95	160	UG/KG	J	500	1
Benzo(b)Fluoranthene	205-99-2	QCBK56031-1	01/06/95	01/13/95	ND	UG/KG		500	1

Engineering Science, Inc.
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Category: Semivolatile
Method: EPA 8270
Matrix: Solid

Project: 135.08

Sample Date : 01/04/95
Receipt Date : 01/04/95
Report Date : 01/26/95

Client ID: HA3-3-4

Quanterra ID : 7254-006

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result Unit	Qual.	Detection Limit	Dilution
Benzo(k)Fluoranthene	207-08-9	QCBLK56031-1	01/06/95	01/13/95	ND	UG/KG	500	1
Benzo(a)Pyrene	50-32-8	QCBLK56031-1	01/06/95	01/13/95	ND	UG/KG	500	1
Indeno(1,2,3-CD)Pyrene	193-39-5	QCBLK56031-1	01/06/95	01/13/95	ND	UG/KG	500	1
Dibenz(a,h)Anthracene	53-70-3	QCBLK56031-1	01/06/95	01/13/95	ND	UG/KG	500	1
Benzo(g,h,i)Perylene	191-24-2	QCBLK56031-1	01/06/95	01/13/95	ND	UG/KG	500	1
2-Fluorophenol	367-12-4	QCBLK56031-1	01/06/95	01/13/95	ND	UG/KG	500	1
Phenol-d5	13127-88-3	QCBLK56031-1	01/06/95	01/13/95	73	%REC		1
Nitrobenzene-d5	4165-60-0	QCBLK56031-1	01/06/95	01/13/95	73	%REC		1
2-Fluorobiphenyl	321-60-8	QCBLK56031-1	01/06/95	01/13/95	66	%REC		1
2,4,6-Tribromophenol	118-79-6	QCBLK56031-1	01/06/95	01/13/95	74	%REC		1
Terphenyl-d14	1718-51-0	QCBLK56031-1	01/06/95	01/13/95	87	%REC		1
					81	%REC		1

Engineering Science, Inc.
400 Woods Mill Road
Suite 330
Chesterfield, MO 63017

Project: 135.08

Category: Semivolatile
Method: EPA 8270
Matrix: Solid

Client ID: NA

Sample Date : NA
Receipt Date : NA
Report Date : 01/26/95

Quanterra ID : QCBLK56031-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result Unit	Qual.	Detection Limit	Dilution
Phenol	108-95-2	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG		330	1
bis(2-Chloroethyl)Ether	111-44-4	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG		330	1
2-Chlorophenol	95-57-8	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG		330	1
1,3-Dichlorobenzene	541-73-1	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG		330	1
1,4-Dichlorobenzene	106-46-7	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG		330	1
Benzyl Alcohol	100-51-6	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG		330	1
1,2-Dichlorobenzene	95-50-1	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG		660	1
2-Methylphenol	95-48-7	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG		330	1
bis(2-Chloroisopropyl)Ether	108-60-1	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG		330	1
4-Methylphenol	106-44-5	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG		330	1
N-nitroso-di-n-propylamine	621-64-7	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG		330	1
Hexachloroethane	67-72-1	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG		330	1
Nitrobenzene	98-95-3	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG		330	1
Isophorone	78-59-1	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG		330	1
2-Nitrophenol	88-75-5	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG		330	1
2,4-Dimethylphenol	105-67-9	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG		330	1
Benzoic Acid	65-85-0	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG		330	1
bis(2-Chloroethoxy)Methane	111-91-1	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG		1600	1
2,4-Dichlorophenol	120-83-2	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG		330	1
1,2,4-Trichlorobenzene	120-82-1	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG		330	1
Naphthalene	91-20-3	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG		330	1
4-Chloroaniline	106-47-8	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG		330	1
Hexachlorobutadiene	87-68-3	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG		660	1
4-Chloro-3-Methylphenol	59-50-7	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG		330	1
2-Methylnaphthalene	91-57-6	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG		660	1
Hexachlorocyclopentadiene	77-47-4	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG		330	1
2,4,6-Trichlorophenol	88-06-2	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG		330	1
2,4,5-Trichlorophenol	95-95-4	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG		330	1
2-Chloronaphthalene	91-58-7	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG		330	1
2-Nitroaniline	88-74-4	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG		330	1
DimethylPhthalate	131-11-3	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG		1600	1
Acenaphthylene	208-96-8	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG		330	1
2,6-Dinitrotoluene	606-20-2	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG		330	1
3-Nitroaniline	99-09-2	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG		330	1
Acenaphthene	83-32-9	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG		1600	1
2,4-Dinitrophenol	51-28-5	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG		330	1
4-Nitrophenol	100-02-7	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG		1600	1
Dibenzofuran	132-64-9	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG		1600	1
2,4-Dinitrotoluene	121-14-2	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG		330	1
Diethylphthalate	84-66-2	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG		330	1
4-Chlorophenyl-PhenylEther	7005-72-3	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG		330	1
Fluorene	86-73-7	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG		330	1
4-Nitroaniline	100-01-6	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG		330	1
4,6-Dinitro-2-Methylphenol	534-52-1	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG		1600	1
n-Nitrosodiphenylamine (1)	86-30-6	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG		1600	1
4-Bromophenyl-Phenyl Ether	101-55-3	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG		330	1
Hexachlorobenzene	118-74-1	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG		330	1
Pentachlorophenol	87-86-5	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG		330	1
Phenanthrene	85-01-8	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG		1600	1
Anthracene	120-12-7	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG		330	1
Di-N-Butylphthalate	84-74-2	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG		330	1
Fluoranthene	206-44-0	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG		330	1
Pyrene	129-00-0	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG		330	1
ButylBenzylPhthalate	85-68-7	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG		330	1
3,3'-Dichlorobenzidine	91-94-1	QCBLK56031-1	01/06/95	01/13/95	110 UG/KG J		330	1
Benzo(a)Anthracene	56-55-3	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG		660	1
Chrysene	218-01-9	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG		330	1
bis(2-Ethylhexyl)Phthalate	117-81-7	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG		330	1
di-N-OctylPhthalate	117-84-0	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG		330	1
Benzo(b)Fluoranthene	205-99-2	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG		330	1

Engineering Science, Inc.
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Category: Semivolatile
Method: EPA 8270
Matrix: Solid

Project: 135.08

Sample Date : NA
Receipt Date : NA
Report Date : 01/26/95

Client ID: NA

Quanterra ID : QCBLK56031-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result Unit	Qual.	Detection Limit	Dilution
Benzo(k)Fluoranthene	207-08-9	QCBLK56031-1	01/06/95	01/13/95	ND	UG/KG	330	1
Benzo(a)Pyrene	50-32-8	QCBLK56031-1	01/06/95	01/13/95	ND	UG/KG	330	1
Indeno(1,2,3-CD)Pyrene	193-39-5	QCBLK56031-1	01/06/95	01/13/95	ND	UG/KG	330	1
Dibenz(a,h)Anthracene	53-70-3	QCBLK56031-1	01/06/95	01/13/95	ND	UG/KG	330	1
Benzo(g,h,i)Perylene	191-24-2	QCBLK56031-1	01/06/95	01/13/95	ND	UG/KG	330	1
2-Fluorophenol	367-12-4	QCBLK56031-1	01/06/95	01/13/95	ND	UG/KG	330	1
Phenol-d5	13127-88-3	QCBLK56031-1	01/06/95	01/13/95	85	%REC		1
Nitrobenzene-d5	4165-60-0	QCBLK56031-1	01/06/95	01/13/95	83	%REC		1
2-Fluorobiphenyl	321-60-8	QCBLK56031-1	01/06/95	01/13/95	74	%REC		1
2,4,6-Tribromophenol	118-79-6	QCBLK56031-1	01/06/95	01/13/95	83	%REC		1
Terphenyl-d14	1718-51-0	QCBLK56031-1	01/06/95	01/13/95	68	%REC		1
			01/06/95	01/13/95	86	%REC		1

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Project: 135.08

Category: Semivolatile
Method: EPA 8270
Matrix: Solid

Sample Date : NA
Receipt Date : NA
Report Date : 01/26/95

Client ID: NA

Quanterra ID : QCSPK56031-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Phenol	108-95-2	QCBLK56031-1	01/06/95	01/13/95	66	%REC			1
2-Chlorophenol	95-57-8	QCBLK56031-1	01/06/95	01/13/95	71	%REC			1
1,4-Dichlorobenzene	106-46-7	QCBLK56031-1	01/06/95	01/13/95	71	%REC			1
N-nitroso-di-n-propylamine	621-64-7	QCBLK56031-1	01/06/95	01/13/95	70	%REC			1
1,2,4-Trichlorobenzene	120-82-1	QCBLK56031-1	01/06/95	01/13/95	69	%REC			1
4-Chloro-3-Methylphenol	59-50-7	QCBLK56031-1	01/06/95	01/13/95	74	%REC			1
Acenaphthene	83-32-9	QCBLK56031-1	01/06/95	01/13/95	73	%REC			1
4-Nitrophenol	100-02-7	QCBLK56031-1	01/06/95	01/13/95	27	%REC			1
2,4-Dinitrotoluene	121-14-2	QCBLK56031-1	01/06/95	01/13/95	78	%REC			1
Pentachlorophenol	87-86-5	QCBLK56031-1	01/06/95	01/13/95	82	%REC			1
Pyrene	129-00-0	QCBLK56031-1	01/06/95	01/13/95	87	%REC			1
2-Fluorophenol	367-12-4	QCBLK56031-1	01/06/95	01/13/95	85	%REC			1
Phenol-d5	13127-88-3	QCBLK56031-1	01/06/95	01/13/95	79	%REC			1
Nitrobenzene-d5	4165-60-0	QCBLK56031-1	01/06/95	01/13/95	74	%REC			1
2-Fluorobiphenyl	321-60-8	QCBLK56031-1	01/06/95	01/13/95	82	%REC			1
2,4,6-Tribromophenol	118-79-6	QCBLK56031-1	01/06/95	01/13/95	98	%REC			1
Terphenyl-d14	1718-51-0	QCBLK56031-1	01/06/95	01/13/95	87	%REC			1